

## PRESENT SCENARIO OF ENGINEERING EDUCATION IN INDIA, WITH SPECIAL REFERENCE TO PRIVATE SECTOR PARTICIPATION

PROF. V. C. KULANDAI SWAMY\*

### EDITOR'S NOTE

*These are extracts from the Presidential speech of Dr. V. C. Kulandai Swamy, President ISTE, delivered at the Inaugural Function of the XXV ISTE Annual Convention on 30th Dec. 1995 held at Visvesvaraya Regional College of Engineering, Nagpur.*



Prof. V. C. Kulandai Swamy

The theme for the Conference this year is "Private Sector Participation in the Technical Education and its Implications." At a time when we realise that education in general and science and Technical education in particular hold the key for development of any nation, when the Government are insisting on aided educational institutions raising resources for meeting a

meaningful part of their maintenance expenditure, when the Government policy is liberalisation of the economy, offering scope for the individual and collective initiative of the members of the public, a discussion of the merits and demerits of the participation of the private sector in technical education is relevant and topical. I shall touch upon this theme briefly later in my address.

Technical education has seen a phenomenal growth in the eighties and more particularly in the nineties. We have today as of 31.12.94, 375 Engineering Colleges with an admission strength of 90773; 980 Polytechnics that can admit 157115 students, 336 Pharmacy Colleges with an intake of 17475 at the Diploma level, 128 of them has an intake of 5930 students at the de-

\* President, ISTE & former Vice Chancellor Indira Gandhi National

gree level. According to the data available on 20.6.94 there are 82 Colleges of Architecture that can admit 3467 students and 242 Institutes/Colleges of Management with an admission strength of 25220 at the postgraduate level. The numbers mentioned are large by any standard and since the benefit to the society is a product of quality and quantity, we have to ensure that we optimise the product. Both the quality and quantity are important, since if any one of the two tends to zero, the product will also tend to zero. Irrespective of the problems of finance, there are certain academic reforms that we should necessarily undertake. It is perhaps the most pressing problem that we should address ourselves to.

We need not embark on any inquiry into what has to be done. Detailed studies have been made by commissions, committees and working groups; discussions have taken place in conferences, seminars and workshops; recommendations are available. They have also been accepted at all levels. **What we need to-day is implementation. We have delayed action, evaded the issues, merrily carried on the routine.** Considering, the developments in general all over the world, the modernisation that is taking place in the neighbouring Asian countries and taking into account the gates that are opened for new technologies to enter India consequent on the policy of liberalisation, we can postpone reform only at great cost in quality of technical education. I would appeal to all concerned and particularly to the authorities of the AICTE that a concerted effort be made, and all persuasive as well as statutory powers be used to

bring about a few relatively simple changes which are well known to all of us and which will have far reaching effects. The reforms that I would strongly recommend are :

1. Autonomy for the colleges
2. Semester system
3. Continuous internal evaluation
4. Credit system
5. Extending the one year apprenticeship to cover all the students completing the diploma or degree.

The present affiliating system, the academic year concept, the year end examinations and fixed combination of subjects are gross anachronisms which no longer exist in any country. We cannot develop a modern education system, keeping some of the most obsolete practices in vogue. It is a sad commentary on all of us in the academic community that we have chosen to live with these outdated practices. These reforms are mainly academic, they do not involve expenses that are beyond our financial capacity. Neither the political leadership nor the administrative bureaucracy will come in the way of these reforms. It is really left to the initiative, interest and imagination of the academic community. I am aware that there are some apprehensions among the members of the faculty about autonomy and continuous internal evaluation. It should be possible to discuss whatever genuine misgivings they may have, including the increase in work load and find solutions that are reasonable. **Once the destination is defined, we can certainly charter the path we should follow and the vehicle we should employ.**

It seems to be a practice with us to identify one or two reform

programmes each decade and organise conference, workshop, seminars and constitute working groups and committees to discuss, debate and produce impressive documents as an end in itself. In the sixties and early seventies, it was curriculum development, question banks, teaching aids : in the seventies, examination reforms, continuous internal evaluation, semester system; in the eighties, it was autonomy, vocationalisation, industry-institute collaboration; in the recent years, accreditation, quality assurance and Total Quality Management. **For advanced countries, these are reforms for adoption; for us, these are subjects for conferences, seminars, working groups and committees.** We cannot continue debating, discussing and report writing as an end in itself any longer. I do not ignore the fact that these reforms have been introduced in a few institutions -to a few among a very large number of institutions. We complain, though rightly, about economic constraints: however the Prime Minister has assured us that the provision for education would be raised to 6% of the GNP in the 9th Plan. Money by itself cannot achieve anything unless we have a policy, a system and the necessary manpower that would enable us to bring about the improvement. **Any amount of investment in improving a bullock cart cannot make it an automobile: what we need is not improvement, but change.**

In India, technical education has been in the forefront of changes and modernisation since the fifties. The idea of Quality Improvement Programmes, Summer and Winter Schools, Continuing Education Programmes originated in technical education. Centres of Ex-

cellence like Indian Institutes of Technology and Indian Institutes of Management were initiated in technical education. Curriculum Development Cells, Semester System and Examination Reform had their beginnings in technical institutions. **We have a tradition of leadership.** We have been pioneers and it is only proper that we continue the tradition and enlarge the reforms that have been tried successfully in a few institutions.

I may now discuss briefly the theme of the Seminar, i.e., "Private Sector Participation in Technical Education and its Implications." The subject is to be discussed in detail in the Seminar that follows and I would only like to analyse some of the issues involved in this development. It is necessary to define the scope of our discussion. There are already private engineering colleges and polytechnics in the country and the Government of India encouraged them with a well defined policy of financial assistance. These are what we call 'aided institutions' and they charge tuition fees as in Government institutions and admission is made on merit, subject to certain seats being reserved for the Management. These institutions do not come under the theme of the present seminar. We are mainly concerned with "self-financing institutions" that charge capitation fee and collect enhanced tuition fee in order to meet the developmental and maintenance expenditure.

The first pre-requisite is that we approach the theme with an open mind and examine all relevant aspects in a spirit of scientific enquiry and not allow any economic dogma, social conviction or political affiliation to foreclose objective discussion.

People make certain assumptions while discussing this subject :

1. Allowing private sector participation may lead to the withdrawal of Government investment in technical education.
2. Private universities in advanced countries are fully self-supporting and students meet fully the cost of their education.

It has been clarified by the Government of India on more than one occasion that the Government at the States and the Centre are committed to support higher education in general and technical education in particular. Private sector participation, if any, is only to supplement and not to replace Government's role in this regard. We have no reason to doubt the sincerity of the Government's assurance. We may only discuss whether this supplementary role has any objectionable features from academic view point or from social and economic view point.

The following observations of Justice Punnayya Committee can be considered as an acceptable approach to the Government's role in higher education. The Committee observes :

'There is no denying that while primary education is fundamental to the nation, higher education determines its economic and technological progress. While it is mandatory that the nation achieves universal elementary education and total literacy, at the same time it cannot afford to neglect and relegate to a neglected position our quest to achieve global standards in higher education.'

The Committee has viewed the role of higher education :

- (i) as an essential input for meeting of the manpower requirement for important and crucial areas of national development and for the integral part of national effort at human resource development.
- (ii) as a critical input to ensure social justice and equity for providing upward mobility and access to higher levels of economic and social activities for the weaker sections and
- (iii) as an important input for improving the quality of life by making higher levels of knowledge available to a wider base of population and for preserving our cultural heritage."

As regards higher education in advanced countries, the Table I taken from the Report of Justice Punnayya Committee (1993) on "UGC Funding of Institutions of Higher Education" will give us a glimpse of the situation (Annexure). It can be seen that :

- (i) no institution is fully dependent on tuition fees.
- (ii) in the case of public institutions, tuition fees do not exceed 15 to 20 percent of total expenditure.

Though education is a concurrent subject, a substantial part of expenditure is met only by the State Governments. In the fields of higher education, the share of the State Governments will be of the order of 95%. The State Governments are already allotting over 20% of their budget for education while the centre spends less than 2% of its budget on education. The progress made in school education is rather poor and we stand way behind such Asian countries as China, Thailand, Malaysia, Indonesia, Philip-

pines and Srilanka. While all of them have a literacy level of about 85%, we are still lingering at 52.2% as per 1991 census. While we may not pit higher education against primary education, the fact remains that the latter will compel our attention more than ever before. The capacity of the States to allot more funds is limited unless they make considerable sacrifice in other areas of social services and development projects.

Secondly, over the years, in the total expenditure on education, the percentage of government share has been increasing and contribution by way of students' fees and from other sources has been decreasing. In the 1950's. the tuition fees accounted for 15% to 20% of the total expenditure of higher educational institutions; now the tuition fees account only for 2% to 3% of the total recurring expenditure.

In the recent years, the demand for social justice and equity in educational and employment opportunities has becomes stronger and wider. With the addition of +2 in the school system, the number qualifying for university education has been steadily increasing and more and more boys and girls knock at the gates of the university. Since the age group that has opportunities for higher education is only around 6% we cannot say that too many are in higher education. This is low even in comparison with many developing countries : for instance, it is 20% for Thailand, 20% for Egypt, 10% for Turkey and 11% for Brazil. The figure is around an average of 30% for advanced countries, though it is about 60% for USA.

The increasing demand for edu-

cation and the difficult financial position of the of Governments have brought about a situation where one has to look for other sources for supporting education. An analysis of the present scene brings to light a fact that deserves consideration. The Government are providing subsidised higher education both to the rich and the poor i.e., to students who come from well-to-do families and those that belong to economically disadvantaged sections. The grant paid to the institutions is nothing but the subsidy to the students routed through the institutions. The Government can as well of allow the institutions to fix the fees realistically and pay the subsidy directly to the students who qualify on economic considerations and thereby convert the indirect subsidy to direct one and exclude those who can afford to pay the cost of education. This would mean two advantages :

- i. the students from well-to-do sections will pay for their education.
- ii. the students who are economically weak can be given fellowships, loan and other forms of support and the Government can stipulate certain level of satisfactory performance for continuance of support.

Before we come to the participation of private sector, we may consider certain major changes that have taken place in the role of education. Education has long been considered social service. Since the middle of this century, it was seen to be an investment for the Government. Now, it has become a marketable commodity. Gradually and silently, a major revolution has taken place in the role of education. Deans and Directors of Universities in advanced countries are visit-

ing developing countries and are conducting information and guidance sessions for prospective students. Some of the universities have established their campus and study centres in developing countries. In a City State like Hong Kong, I learn that 19 foreign universities have study centres and offer their programmes by a combination of distance mode and face to face instruction. It is understood that London University and Monash University (Australia) are establishing full fledged campuses in Malaysia. Instruction materials including audio cassettes, video cassettes and books written for self-instruction, are becoming increasingly available from advanced countries. The revolution in communication have made it possible for the universities to transcend national boundaries and enroll students in other countries. Well-to-do students who are denied admission in aided institutions have long been going abroad for higher studies. This number has been increasing. There is also the reverse of it. Children of NRI's find that education abroad is very costly and their parents are willing to send them to well-recognised institutions in India and pay handsome tuition fee. Certain imaginative persons who were interested in education and, at the same time, were enterprising, saw the emerging market and they established institutions in such sought after fields as medicine and engineering. They were not commercial in their approach; their intention was not making profit, but promotion of education for specific target group. The philosophy behind the approach is that those who do not get admission to subsidised education on the basis of merit in aided institutions

may get opportunities for education at their own cost.

Those who initiated this strategy were motivated by non-commercial approach; but slowly commerce entered the field and profiteering became the motivation. What started as an experiment in Karnataka became fairly widespread in that State and spread to Andhra Pradesh and Maharashtra and later to Tamilnadu. The State Governments, either through legislation or executive orders, started regulating it in their own way. Recently, the Supreme Court has regulated the admission as well as fees to be paid in the case of self-financing Engineering and Medical Colleges.

The essential features are as follows:

1. There will be free seats and payment seats.
2. A certain percent can be reserved for foreign students.
3. Admission will be on the basis of merit in both the cases, in the case of payment seats, the candidate should pay the prescribed higher fees.
4. Admission is to be made by the State Governments.

All the details are now public knowledge and I need not go into details. What has been a unique phenomenon in four States mentioned earlier is slowly spreading to other States. There is opposition from students and certain sections of the public.

We have, predominantly, in these four States not only self-financing Engineering and Medical Colleges, but also Arts and Science Colleges, Law Colleges, Pharmacy Colleges, Colleges of Education, Institutes of Management,

Nursing Colleges and Industrial Training Institutes. Almost a parallel system of educational institutions has come into existence. These are growing in number. The problem no longer seems to be one of "to be or not to be", but, it is one of how to regulate them and guide them so that they fulfill the requirements of quality of institutions and probity of management. Either their existence or their expansion, per se, no longer seems to be an issue. This is evident from the fact that the Government of India have already introduced a Bill in the Parliament for establishing private universities. I presume that no great purpose is likely to be served by spending time on whether or not the private sector be permitted to participate in higher education in general and technical education in particular. We have a number of democracies where private sector participation in education is significant. They have established a name for quality and excellence in USA, at the same time, it must be remembered that these Private institutions receive considerable support from the Federal government, industries and philanthropists by way of student fellowships, research support and endowments. The private universities may have had the benefit of private initiative, but are not owned by private individuals or families. They are not fully dependent on student's fees either.

The condition in India is different. Most of the self-financing institutions are dependent on the capitation fees and tuition fees collected. They have been started not by great philanthropists or by educationally motivated industrial houses. In many cases, the

people behind these ventures are politicians and politically influential individuals. Grave doubts may arise whether these promoters will be able to develop an educational institution, especially an institution of higher learning, with the necessary atmosphere of academic freedom, spirit of inquiry and pursuit of scholarship. Many of the promoters think of these institutions as another property, different kind of acquisition and a new field for investment. Having accepted private sector participation in higher education in general and technical education in particular on self-financing basis, the educationists and policy makers have to consider the steps needed to guide and regulate this sector of educational endeavour to ensure that it meets the minimum requirements of academic world. An educational institution is not a collection of tutorial classes. It is a place of learning in an atmosphere of inquiry, discussion, debate and association of scholars. Even if they do not fulfill these conditions fully in the early stages, they must move towards that goal. They should not resemble another industrial complex with effectiveness and efficiency measured only in terms of percentage of passes. An educational institution should make even in a modest way, contributions that transcend performance in the examination hall or measurements in a laboratory. It is necessary to consider a statutory provision to govern these institutions. The Government of India may provide a basic legal framework comparable to the 'Grund Gesetz' in Germany. It may lay down certain basic parameters. Within this framework, the State Governments may enact laws. They

may meet the following requirements :

1. It should ensure enough motivation and incentive for socially conscious individuals or private enterprises to make investments in education.
2. Scope for private initiative and leadership in the development and management of the institution should be allowed, consistent with the healthy growth of the institution.
3. No individual among promoters should draw any benefit from the institutions,
4. The earnings must be ploughed back into the development of the institution.
5. The administrative, financial and academic aspects should be fully transparent and be subjected to such scrutiny as may be needed.
6. The institution must be profession-

ally managed.

7. The property must vest in Trust or a Society duly formed.
8. The Society/Trust and the Executive Council of the institutions should have a composition so as to have representatives from the Government or bodies like the State Council of Higher Education and the Universities.

Self-financing institutions in Engineering now exist for about 20 years. It may be desirable for the AICTE or the **Government of India to constitute high-power committee to make a detailed study of the working of these institutions and prepare a report which may form an important document in deciding about regulating the establishment and development of technical institutions in private sector.**

