



Reconstruction of Higher Education in India



V C KULANDAI SWAMY

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Prof. V C Kulandai Swamy



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Author: Prof. V C Kulandai Swamy

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To My Parents

ABOUT THE AUTHOR

Prof. V C Kulandai Swamy obtained M.Tech. from IIT Kharagpur and Ph.D. in Hydrology and Water Resources, from the University of Illinois, USA. Starting his career as a teacher and researcher, he was Assistant Professor, Professor and Dean of Postgraduate Studies in the College of Engineering (now Anna University), Chennai. He has made outstanding contributions to Hydrology. A general equation derived by him and a model based on it for Rainfall Runoff Studies is known as 'Kulandaiswamy Model' and is quoted widely in Hydrologic literature. He was a Member of the UNESCO Planning Group (1978) for the preparation of the Second Six Year Plan (1981-86) of the International Hydrological Programme (IHP) and UNESCO Adviser/Expert (1979-81) in Hydraulics and Hydrology. He has authored over sixty research reports and papers in the fields of Hydrology and Education.

He moved to Educational Planning, Development and Administration; was successively Director of Technical Education (1974-78), Government of Tamil Nadu, Vice-Chancellor, Madurai Kamaraj University (1978-79), Vice-Chancellor, Anna University, Chennai for three successive terms (1981-90), and Vice-Chancellor, Indira Gandhi National Open University, New Delhi (1990-94). Currently he is the Chairman (Honorary) of the Tamil Virtual University Society.

He has been a member/chairman of a number of academic bodies, working groups and expert committees at the national and international levels in Hydrology, Technical Education, General Education and Distance Education. Mention may be made of a few: Member, University

a medallion and a cash award of Rs.One lakh in recognition of his contribution to Tamil literature.

The Commonwealth of Learning, Vancouver, Canada honoured him during its Decennium Celebration and 'Pan Commonwealth Forum on Open Learning' (1-5, March 1999) at Brunei by making him an '**Honorary Fellow of the Commonwealth of Learning**' in recognition of his outstanding contributions to distance education and open learning in India and in the Commonwealth countries.

He was conferred the national honours of **Padma Shri** (Science and Education) in 1992 and **Padma Bhushan** (Engineering and Science) in 2002. He was one of the first two chosen by the Senate of IIT Kharagpur for the **Distinguished Alumnus Award** among the 35000 odd Alumni, instituted and conferred in its 49th Convocation in 2003.

Grants Commission (UGC), India for two terms; All India Council for Technical Education (AICTE) and Joint Council for Vocational Education; Vice-President of the International Council for Distance Education (ICDE) for Asia; President of the Association of Indian Universities (AIU); President of the Association of Commonwealth Universities (ACU), London for a brief period; President of the Indian Society for Technical Education, New Delhi for two terms. He is a **Fellow** of the Institution of Engineers (India); Indian National Academy of Engineering; Indian Academy of Sciences and Computer Society of India.

He is a recipient of many distinctions and awards: **Honorary D.Litt/ D.Sc. from seven Universities** viz., D.Litt (Honoris Causa), University of Jaffna, Sri Lanka for his literary contributions, 1980; D.Sc. (Honoris Causa), Alagappa University, Karaikkudi, Tamil Nadu, 1997; D.Litt., (Honoris Causa), Pondicherry University, 1997; Ph.D., (Honoris Causa), Jawaharlal Nehru Technological University, Hyderabad, Andhra Pradesh, 1999; D.Litt. (Honoris Causa), Indira Gandhi National Open University, New Delhi, 2000; D.Litt. (Honoris Causa), Karnataka State Open University, Mysore, 2002; and D.Litt. (Honoris Causa) Dr. B.R. Ambedkar Open University, Hyderabad, 2002; **Indira Gandhi National Integration Award** (1988) and the Central Board of Irrigation and Power **Diamond Jubilee Award** (1991). The Institution of Engineers (India) conferred on him the recognition of one of the eminent “**Engineering Personalities of India**” (1991). The University Grants Commission (UGC) conferred on him **Pranavananda Award** for 1990 for Education.

Besides being an educationist and technologist, he is a writer of standing in Tamil and was the recipient of the **Sahitya Akademi Award** for the year 1988. The Government of Tamil Nadu chose him for the prestigious **Thiruvalluvar Award** for 1998 which carries a citation,

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PREFACE

In my book titled **Higher Education in India: Crisis in Management**, I have made the following observation:

University education in this country stands criticized strongly, perhaps condemned, by all – political leaders of all parties, administrators and members of the public. It has not been spared by the teachers and students either. It has met with deep dissatisfaction from all quarters. One wonders as to who owns responsibility for a massive system which, despite all the condemnation, has been expanding continuously and hardly with any major change.

This is the paradox of Indian higher education. The affiliating practice, linking the college and the university, is outdated, anachronistic and is a curse, long desired to be dispensed with, as may be seen from the dissatisfaction expressed and decisions announced from time to time.

- Lord Curzon, Viceroy of India, expressed unhappiness over the servile adherence of Indians to a system, discontinued in the country of its origin.
- The Education Commission [1966] suggested as a remedial measure, the grant of autonomy to deserving colleges.

The affliction, however, continued unaffected and the authors of the National Educational Policy [1986], a document prepared after extensive deliberations, gave an assurance as stated below:

In view of the mixed experience with the system of affiliation, autonomous colleges will be helped to develop in large numbers until the affiliating system is replaced by a freer and more creative association of universities with the colleges [para 5.28].

Again, the Programme of Action, 1986 reiterated the decision contained in the policy document and said:

It is envisaged that about 500 colleges should be developed as autonomous colleges in the VII Plan, and the existing affiliating system might be replaced in the long run [p.21].

Although it was contemplated that 500 colleges will be granted autonomy before the end of the VII Plan, we have even now [2006] only 135 autonomous colleges while the affiliated colleges have grown in number from around 5000 in 1986 to 17625 in 2005. Similar was the fate of the persistent pleas for semester system, continuous internal evaluation and credit system. Consequently, the Indian higher education system moved into the twenty first century carrying on its shoulders the crippling burden of a legacy left behind by the British as far as the structure and governance are concerned.

In the world of higher education we resemble very much a person who enters the swimming competition with a stone tied around his waist. He may still swim and reach the shore, but not win the race. The matter for deep regret is, not that we have not been pioneers, but that we have failed even to march with the enlightened world to meet the emerging needs of a knowledge society. It is said that a society or a nation must make periodically mini revolutions to contend with the relentless process of change: If it fails, it has to face a major revolution. Higher education in India, as already stated, has resisted stubbornly and successfully any mini revolution and therefore, it has to go through a major revolution now to survive and succeed in an increasingly competitive environment promoted by liberalization and globalization.

All over the world higher education is located in university campuses, reasonably large in size with a critical strength of faculty and students; but in India it takes place in nearly 17625 affiliated colleges [2005], small in size, understaffed and ill-equipped, but catering to 90 percent of the undergraduate students, 66 percent of the postgraduate students and employing 83.4 percent of the faculty [2004]. What we propose is the transfer of higher education from the compounds of affiliated colleges to the campuses of universities. The modus operandi of achieving this objective is discussed in this book.

The last quarter of the twentieth century and the first five years in the twenty first have witnessed far reaching developments in higher education. It is the period that has ushered in the knowledge era. Higher education which has remained elitist over centuries has set itself on a march to becoming mass-based. The numbers knocking at the portals of the universities are so large and the means of the governments

and public institutions to answer the demands are so limited that complementary partners have become inevitable. The governments have found it necessary to permit, even invite and encourage, private providers and the parents have come to accept payment for services when public facilities are not available.

India has as its goal the attainment of a developed nation status by 2020. The experience of advanced countries indicates a correlation between economic development and manpower with tertiary education and training. As far as we are concerned, it may be necessary to reckon with an age group enrolment ratio of 20.0 to 25.0 percent, by 2020, taking all relevant aspects into consideration. It means a threefold increase from the present level of 7.0 or 8.0 percent. That it is beyond the fortunes of the governments to find necessary funds is obvious. Therefore private providers have to complement and they have come already in large numbers in arts and sciences, engineering and technology, medicine and law. The number keeps growing, and along with that are heard loud protests of commercialization, profiteering and violation of rules and regulations. There is adhocism all over, and many from both the providers and the clients are knocking at the gates of the judiciary which in effect seems to be arbitrating on all aspects of private participation in higher education. A well-defined national policy is the desideratum. The Central Government, in consultation with the state governments, must announce a comprehensive policy and guidelines for the establishment and maintenance of individual institutions and universities in the private sector, since the former already exists in substantial numbers and the latter is both necessary and inevitable considering the course of events.

Higher education has been for long a marketable commodity in some countries; has become marketable in certain others in recent years and the process marches on enveloping other countries also. Even in the UK, where higher education has been free for centuries, the Labour Government has introduced tuition fees indicating that the service has to be paid for at least partly. The deans and professors of universities from advanced countries are organising education fairs in developing countries, offering admission to students in their universities, not in a spirit of public service, but in a mission of fund-raising. This is where the world of higher education is and we have to comprehend its implications for the future of Indian higher education.

Considering the Indian circumstances, higher education has to be in joint sector – as public good in government and government-aided institutions and as economic good in private institutions. We have to shed our inhibitions against private participation and refrain from viewing it as commercialization.

Commerce is not an ugly word. Even friendship is defined as interested commerce between equals. Commerce exists since the beginning of civilization. It has also supported and sustained great civilizations. What is important is the code of ethics governing the operations and the motive behind the enterprise. To concede the inevitability of private participation on the one hand and condemn the private providers in general, painting all with the same brush, does not represent a healthy approach. There are in this country many honourable members of the public who would like to serve the society, as providers of educational programmes, valuing the respectability and reputation that it earns. A lamentable factor in the prevailing dispensation is that even these members complain that approval

at different stages for the establishment of an institution could not be obtained on application as prescribed, but only on payment. The “no objection” certificate is paid for, approval is paid for, and in the case of colleges, affiliation of the programmes is also paid for. With this state of affairs at the levels where power to grant and authority to monitor rest, platform rhetorics demanding rectitude from others will be a fraud on the innocent and gullible public. I may record on the basis of my own experience in higher education that if there is honesty and efficiency at the levels where approvals are granted and performance is monitored, all will be well. Offenders there will be, but it is not beyond our genius to design and devise measures to keep the abuses at the minimum. Elimination is impossible; but it is true of any other sector. What is needed as a prerequisite is a well-defined and positive policy announcement encompassing colleges and universities in the private sector and providing clear guidelines on establishment and maintenance of these institutions.

We envisage for India a higher education landscape where the providers will be the Central Government, state governments, local bodies and private trusts or societies aided or unaided as the case may be. The categories of institutions, where education and research will take place will be universities, institutes of national importance and autonomous colleges. The affiliated colleges that do not qualify for autonomy will be transformed into junior colleges offering the much needed programmes leading to a diploma or junior degree with emphasis on training and skill development to candidates who have completed their higher secondary courses.

An uncertainty or indecision seems to prevail in signing GATS. At any rate, no definite statement has so far been made

by the MHRD on the subject. If the issue is one of facilitating our entry into world education market and in the process our having to face global competition on our own soil, we need not hesitate to enter the combat. We have the unique privilege of three thousand years of cultural evolution. A time-honoured tradition of abstract thinking and intellectual enquiry has been our forte. We do have institutions comparable to the well established ones in advanced countries; they may be, for our size, only a few, but still significant in absolute numbers. We also have some more institutions that could be quickly upgraded. The inherent talent of the nation will sprout and blossom and the genius of the enterprising will be extended under competition; will decay and decline under isolation and protectionism. It should be possible to build into any deal the minimum safeguards that are absolutely necessary.

This book is based essentially on experiences gained, knowledge acquired and insights obtained during my long career of over forty years in higher education as a teacher, researcher, and also as an academic administrator in my capacity as Vice-Chancellor of three universities for over fifteen years and as a member/chairman of committees and commissions. It was a long journey in which I was a traveller: not merely a traveller, but one who, in his own humble way, attempted to change the course of the journey or alter its pace with faint streaks of impact at the macro level and perhaps, a more perceptible effect at the micro level. I hope and trust that this treatise will throw some light on the path for the future course of higher education in India.

I am thankful to a number of my friends and authorities of institutions who readily provided the information and data that I requested from them. My thanks are due to

Dr. V Murugan, Reader in English, Presidency College, Chennai for having gone through the manuscript and offered suggestions for improvement. Mention must be made of the work done by Thiru K Selladurai and Thiru N Nagarajan who did the word processing and initial formatting. I am grateful to Mr. N Rajshekar whose subtle pressure and invitation persuaded me to commit into writing certain thoughts on Indian higher education that I have been presenting in seminars and conferences. My thanks are due to the ICFAI University Press for transforming the manuscript into an elegant book.

Chennai
10.05.2006

—V C Kulandai Swamy



Introduction

1.1 Obsolete Structure – The Unaddressed Problem

The Education Commission, headed by Prof. Kothari [1966], stated categorically that

Indian education needs a drastic reconstruction; almost a revolution.

It is now forty years since this recommendation has been made; but the structure has not seen even a semblance of change. This, in spite of consistent reference to this forceful recommendation of the Commission by many committees, seminars, and workshops that followed. As one who has observed closely the higher education system in India for nearly four decades, I may say, in all sincerity, that **there hardly exists any sector in India that has so systematically, and so successfully resisted, for so long, all efforts to bring about reforms.**

Semester pattern, credit system, and continuous internal evaluation are the basic components of the instructional programme in higher education all over the world; but not in India. Since the late sixties of the last century, this simple reform has been discussed, debated and unanimously advocated in a series of conferences,

seminars, and workshops organized during the rest of the century with support from the UGC, AIU, Ministry of Human Resource Development and even foreign aid programmes. It may be difficult to believe, but true, that till today, this basic, universally accepted, reform has not been carried out. All the recommendations made, and the reports written do adorn the shelves; are often quoted and pleaded for, but remain unimplemented except in a few institutions and that too in a few disciplines.

Higher Education in India represents, as already stated, a system that has, almost with unqualified success, resisted so far all attempts at reform. There seems to be a hermetically sealed conservative force that preserves the status quo since the early years of university education in India. Some, even now, blame Lord Macaulay for the ills we suffer from. It is an open confession of bankruptcy of initiative, imagination, and leadership on the part of successive generations of educationists in this country, who continued an obsolete structure and outdated academic practices without introducing periodic changes, at least, to be in line with what is happening in the rest of the world. **We may be pardoned for not having been pioneers; but can have no justification for not keeping up with the global trend.**

1.2 Major Revolution vs. a Series of Mini Revolutions

It is said that

A nation or a society must carry out, periodically, mini revolutions. If that does not happen, it must be prepared for a major revolution.

We have not only failed to carry out mini revolutions periodically, but we have also failed to bring about the “drastic

change, almost a revolution” recommended so emphatically by the Education Commission as early as 1966.

As we look at the system, what is needed is not reinforcing, not consolidation, but a complete change of the structure itself. Referring to the governance mechanism, the report of the Indian National Academy of Engineering [INAE] entitled ‘**Salient Issues in Higher Technical Education**’ [2005] observes as follows:

Our governance structure of academic institutions has not changed much from what we inherited from the British. Our main problem that is the source of our weakness is both the structure and the governance system [p.4].

1.3 Structure: Unequal to the Task

In the age of knowledge in which we live, higher education must, more than ever before

- meet the emerging challenges
- continuously remain competent in fulfilling the following needs adequately:
 - preservation and organisation of knowledge
 - communication of knowledge
 - creation of new knowledge
 - extension of knowledge.

The present structure of higher education in India is

- outdated
- anachronistic
- unequal to the task.

I make this observation after deep consideration, long cogitation and with a full sense of responsibility resting on my experience as the Vice-Chancellor of three universities for nearly 15 years and as a teacher and researcher for 25 years.

Any attempt at improving the system, expanding it and strengthening it without restructuring would mean expenditure of time and effort with poor results, and investing additional funds would be with poorer returns. Reform in higher education must start with Restructuring the Higher Education System. [Kulandai Swamy, 2005]

The reasons for the above statement are briefly as follows:

- All over the world, including developing countries, higher education is in university institutions: they are big campuses with a critical mass of student and staff strength that can sustain large libraries, modern laboratories, and advanced centres of studies with adequate infrastructure.
- They are campuses with a congregation of scholars in pursuit of learning and seeking truth, in the form of instruction in classrooms, intensive studies in well-equipped libraries, investigation in laboratories, discussion and debate in periodically organized conferences, seminars, workshops, and special lectures contributing to an ambience of acquisition, creation and application of knowledge. MIT in the USA has a faculty strength of 3000 and a student population of about 30,000 [Naik, 2003]. Even lesser institutions have the critical mass of students and staff to support an active atmosphere of learning, dissemination of knowledge and individual and group efforts in search of knowledge.

- In India, higher education is

- i. fragmented and ii. scattered

and it takes place mainly in 17625 [Mukherjee, 2005] tiny institutions called affiliated colleges, many of which are a trace better than higher secondary schools.

- They do not have libraries worth the name.
 - They hardly subscribe to even a modest number of national journals, not to speak of international journals.
 - Most of them have a faculty strength varying from fewer than 100 to 150.
 - The percentage of faculty with doctorate qualification is pitifully low, bordering on nil in most cases.
 - These institutions perform only classroom teaching, preparing students for the examinations conducted by the universities; in effect, they function as tutorial colleges.
 - The affiliating system under which these colleges work has long been given up in the country of its origin; it does not exist anywhere in the world except in India, Pakistan and Bangladesh. We shall revert to this subject again later.

Unfortunately, the entire higher education in India takes place only in these ill-equipped, understaffed, small, affiliated colleges as can be seen from the following [UGC, 2003-04]:

- 90 percent of the undergraduate [bachelor's degree] students are in these affiliated colleges.
 - 66 percent of the postgraduate students are in the affiliated colleges.

- 83.38 percent of the faculty members are in the affiliated colleges.

1.4 An Academic Wonder

Postgraduate education and research constitute the really crucial component of higher education. We have the peculiar and unhappy situation of substantial postgraduate education comprising 66% of the total postgraduate students studying in colleges that have programmes leading to the award of

- i. M.A., M.Sc.
- ii. M.Phil, and
- iii. Ph.D. degrees

while they have

- i. only lecturers of different grades
- ii. no sanction for the post of professors
- iii. only 9% of the total research scholars in the system [with 66% of postgraduate students]
- iv. no semblance of any research, much less basic research.

This academic wonder is happening in India and goes on – growing strong, multiplying, unchecked and unrepented. Consequently, it is not only our undergraduate education that is of poor quality, but a substantial part of our postgraduate education, including doctoral degrees, is also of poor quality.

- It may be hard to believe but true that as in the academic year 2003-04, out of the 16885 colleges, only a third of them i.e., 5589 satisfy the minimum requirement specified by the UGC for recognition under section 2[f] of the UGC Act. [UGC Annual Report, 2003-04]

- Even the bulk of the institutions that do not qualify for recognition under section 2[f], continue to function as institutions of higher learning and prepare students for the award of academic qualification. They can continue to do so with no hindrance and no time bar.

Universities in India: Too Few

India has as on 1.3.2005 [Mukherjee, 2005] 342 universities, 17625 colleges, 104.81 lakh students and a faculty strength of 4.71 lakhs. The 342 universities include:

- i. 18 central universities
- ii. 211 state universities
- iii. 95 deemed universities
- iv. 13 institutes of national importance
- v. 5 institutes established by state legislation.

“For a nation of 1.06 billion people,” says Pranab Mukherjee “we should have more institutions of higher education and higher intakes.” It is the considered opinion of the leaders of education that the universities in India are too few and we must have substantially more number of universities, especially, to meet the emerging and anticipated needs of the knowledge economy for postgraduate education and research, and also to face the international competition in the relentlessly unfolding globalization, irrespective of our preferences and choices.

An international comparison will help us understand our present position and assess our future needs and develop a vision for the future. The following information is as obtained from the website unless otherwise stated, and may have marginal variations:

- The USA with a population of 27.6 crores has 2466 university institutions [*Chronicle of Higher Education USA*, 2002-03] with four-year bachelor's degree programmes:
 - i. public universities – 631
 - ii. private universities – 1835.
- In addition, they have the following institutions with 2 year junior degree programmes:
 - i. public 2 year institutions – 1081
 - ii. private 2 year institutions – 621.
- Japan with a population of 12.7 crores has 726 universities – national 87; public 86; and private 553 [*Source: Embassy of Japan, USA*].
- Germany with a population of 8.2 crores has 350 universities. [*Source: German Embassy, USA*].
- The UK with a population of 5.98 crores has 125 universities, and a large number of autonomous institutions that can award degrees.

Among the developing countries, China is said to have 2000 universities and colleges [Yu Fuzeng, 2006],

- According to the World Bank Report [Higher Education in Developing Countries: Perils and Promise, 2000], China has more than 800 private universities although the Ministry of Education officially recognizes only a handful of them.

- According to Gnanam [2003], there are now in China more than one thousand '*min ban*' [people run] private institutions. China has nearly doubled the higher education institutions since 1999, totally counting on the private resources through student fees and other contributions.

Cumulatively, these excerpts convey the information that China has today a very large number of university institutions.

- Indonesia with a population of 21.7 crores has 57 public universities and over 1200 private universities, with more than 60 percent of the student body enrolled in private institutions [World Bank, 2000].
- Philippines with a population of 7.9 crores had 1495 higher education institutions in 1998, comprising 377 public institutions and 1118 private institutions.

The 342 universities that we have are, therefore, too few. Again the number 342 does not reveal the entire information, and has within it hidden weaknesses and deficiencies of significant/critical nature. Of the 95 deemed universities, many are of recent origin and they have been established by upgrading affiliated or autonomous colleges. It may take quite some time for them to meet even the modest requirements of a university. Of the 211 state universities, most of them carry on their shoulders the burden of the academic administration of affiliated colleges. Some of the universities really have a disturbing number of affiliated colleges as may be seen from the following:

- Andhra University has 405 affiliated colleges.
- Osmania University has over 390 affiliated colleges.
- University of Madras has 174 affiliated colleges.

- Anna University, a higher institution of technology, has nearly 240 affiliated colleges – all of them being in engineering discipline.

The position is roughly the same in most of the state universities which are 211 in number. The senior members of the university administration in these institutions spend significant time and effort in the constitution of boards of studies, prescribing curricula and syllabi, setting question papers, organising examinations, valuing answer books, publishing results, processing requests for revaluation and attending to never ending court cases on numerous issues.

As an example, the dimensions of the task for the University of Madras may be seen from the figures that follow. In the academic year 2004-05, the University has, even with 174 affiliated colleges, set 14740 question papers, and valued 18,82,680 answer books, processed the marks and published the results. Our universities mainly function as dignified examination boards and the university departments, mostly small in terms of faculty strength and students, poorly funded, riven with conflicts and controversies, frequently disturbed by demands and demonstrations, do not have much to claim in research at the frontiers of knowledge. A few exceptions are certainly there; it is only these exceptions along with the central universities, and the institutes of national importance that help us claim a place in the forum of higher education in the world.

It is quite possible that one may find a contradiction in the dismal picture that I have painted about the state of higher education in India, and the commendable performance of our students in PG education and research abroad; the reputation that Indians working abroad either in international organizations or in individual countries enjoy, as well as the promise India holds as an emerging

knowledge super power. This apparent contradiction may be explained as follows:

- i. In spite of the impressive size of the higher education system that we maintain and operate, only about 7% or 8% of the age group enters higher education, representing talent drawn from the better endowed sections of the society.
- ii. Even from among the 7%, only the motivated, the ambitious, and the enterprising ones leave the shores of the country, either for studies or for jobs, often after a competitive selection.
- iii. Notwithstanding the poor quality of the mass of institutions, the country still has, as already pointed out, a small number of institutions of excellence that contribute to the talent that competes, equals and excels on all fronts in the international arena.
- iv. The boys and girls, who do well in universities abroad and the men and women who have earned and established a reputation for the quality of their performance, are not merely the products of our colleges and university departments, but are also the products of our great cultural heritage that has fortunately enjoyed an unbroken continuity for over three millennia.
- v. If Ramanujan, a failed intermediate student and a clerk in the Madras harbour, could blossom into a world-class mathematician comparable in formal powers to Euler and Jacobi as vouchsafed by Hardy, and C V Raman, starting as an assistant accountant general, could become the first Nobel Laureate in physics in the whole of Asia, it is partly because

they had as their forefathers Arya Bhatta, Brahmagupta and Bhaskara. Addressing a meeting organized by the Confederation of Indian Industries [CII], Dr. Robert D Blackwill, the then US Ambassador said:

As President Bush has remarked to Prime Minister Vajpayee, human resources and intellectual capital are India's greatest asset. As a nation, you have great DNA. [The Asian Age, 18.07.05]

- vi. We also had and still have the benefits of the services and contributions of men and women, educated and trained in some of the best universities abroad.

As the concluding observation of this section, I must state that Indian higher education system must move totally from the college compounds to university campuses and India certainly needs more universities – many more universities; maybe about 2500 by 2020. I shall discuss later, the modus operandi for achieving this objective.

University Research: The Achilles' Heel

In all the advanced countries, universities and university level institutions constitute the fertile fields for research. It is almost a universal phenomenon because

- i. creation of new knowledge is as much the function of a university as communication of knowledge.
- ii. **the universities alone have the unique privilege of a continuous flow of young and fresh minds that are conducive to creative effort: even if one or two in the chain have a flash of genius, there might occur a breakthrough.**
- iii. the universities possess the kind of atmosphere and the congregation of scholars needed for free discussion, debate, enquiry, and investigation, all in search of new knowledge. The feeble role of higher education in research in India can be assessed from the share of higher education in research expenditure [Table 1].

The share of higher education is very low, not because of non-availability of additional funds, but because the system, perhaps,

Table 1: Allocation of Funds for Research [%]			
No.	Category of Institutions	1998-99	2002-03
i	Central Government Laboratories and Institutions	62.5	62.0
ii	State Government Laboratories and Institutions	8.0	8.5
iii	Public Sector Laboratories	5.0	5.0
iv	Private Sector Industries	21.6	20.3
v	Higher Education Institutions	2.9	4.2
<i>Source: Research and Development Statistics: Department of Science and Technology, Government of India: 2000-01 and 2004-05.</i>			

could not make convincing claims for larger funds. The state of academic research in India can be seen from the nearly constant allocation of funds, year after year, while there is substantial increase in the case of all the other sectors [Table 2].

It can be seen from Tables 1 and 2 that the role and contribution of higher education in research are not anywhere near the domain of significance. It may be mentioned in passing that India's ranking in research in the world has been on the slide. In 1980 India's rank was 8th in the world in publications, while that of China was 23rd. In 1994-95 the position changed with India sliding to the 12th position, and China moving up to the 15th position [Kulandai Swamy, 1998]. As per recent information, India occupies the 13th position in publication and 21st position in citations, while China occupies the 9th and 19th positions. "Between 1995 and 2003, while the number of Ph.D students in China jumped from 8,139 to 48,740, India saw a meagre upward movement from 3,000 to 5,000. In 2004 alone, 57,378 scientific papers were published in China against 23,338 in India." [*The Times of India*, October 12, 2005]. We may not go into the pros and cons of this issue since we are concerned with academic research mainly.

**Table 2: National Allocation for Research to Different Sectors
1997-98 – 2000-01 [Rupees in crores]**

No.	Category of Institutions	1997-98	1998-99	1999-2000	2000-01
i	Central Research Institutions	6885	8706	10151	11836
ii	State Research Institutions	927	1027	1178	1351
iii	Private Industries	2438	2790	3365	4059
iv	Higher Education Institutions	362	379	396	415
<i>Source: Research and Development Statistics: Department of Science and Technology, Government of India, 2000-01. Publication 2002.</i>					

The “Task Force for Basic Scientific Research in Universities”, set up by the Ministry of Human Resource Development, Government of India, in its Report, May 2005 has observed as follows:

The quality and quantum of scientific research in India have been declining over the years due to inadequate infrastructure facilities, insufficient funding of research activities and particularly lack of sufficient number of committed scientific workforce. Our universities and laboratories have thus failed to respond to the needs of time [p.I].

The above situation is due to a combination of many factors and unless they are addressed, an improvement in the situation cannot be brought about by increased funding or staff strength. The Task Force has in a mild language indicated one step as the corrective measure as follows:

The emphasis for research will clearly emerge if we have universities with only departments and separately universities having affiliated colleges [p.5].

Their observation really puts the finger on the problem. We shall come later to the problem of affiliation. The Task Force has also recommended the following:

- i. 1000 positions of research scientists at various levels equivalent to that of lecturer, reader, and professor to be created.
- ii. Creation of 10 networking centres in basic sciences [two centres each in: physical sciences, chemical sciences, life sciences, material sciences and mathematical sciences] in leading departments of universities in different parts of the country to promote collaborative research, access to advanced facilities and imparting of training in frontier areas.
- iii. Formal linkage between the universities and national level institutions including CSIR laboratories to be promoted through joint research projects and training.
- iv. The number of Ph.Ds from Indian universities to be increased fivefold within a span of 10 years with proper standards.
- v. The Ministry of Human Resource Development to provide an estimated grant of Rs.600 crores per annum for implementation of the programme.

These recommendations are significant but modest. We may also take note of the establishment of two national institutions designated as Indian Institute of Science and Educational Research [IISER] at Kolkata and Pune for research in basic sciences.

It is not as though we need to promote science and technology alone for national development. In the Indian context social sciences are also important. We have as many social problems that cry out for solution as economic problems.

We have consciously opted for liberalization, and the relentless impact of globalization will continue to have an increasing impact on all sectors of our economy. It is obvious that to meet the challenges of global market, we need to keep our competitiveness in good repair. Our competitive ability is nowhere near assuring. As per the Global Competitiveness Report published in 2004, out of 53 countries we get the 45th position, keeping company with those in the last few places. The USA, not surprisingly, gets the first place; Taiwan the 3rd, Singapore the 4th and China the 33rd place. Again in the use of professional managers, we slide further and occupy the 50th place among 53. It is a measure of the top-heaviness of bureaucracy vis-a-vis professionalism in our country. Our total dependence on bureaucracy to the near exclusion of professional talent and its growing importance in an age of knowledge is a matter to be really lamented. If we are to improve our performance within and without in the world market, we need to take giant strides in the following:

- i. Our ability for innovation in every area of activity and in the development of new technologies
- ii. Reorienting our approach and catching up with the advanced countries, towards the use of professional talent and utilization of professional managers in organisations, and experts in policy formulation, decision-making and implementation.

In a conference of scientists designated “Science Summit 2000” organized at the initiative of Bharat Ratna C Subramaniam, the following information was given by Dr. P Rama Rao, former secretary, DST, based on an estimate that emerged in a discussion meeting. In the technologies that we used in India, the foreign components were roughly as follows:

- i. Foreign technology without alteration – 50%.
- ii. Foreign technology modified and adapted to suit our need – 45%.
- iii. Indigenous technology – 5%.

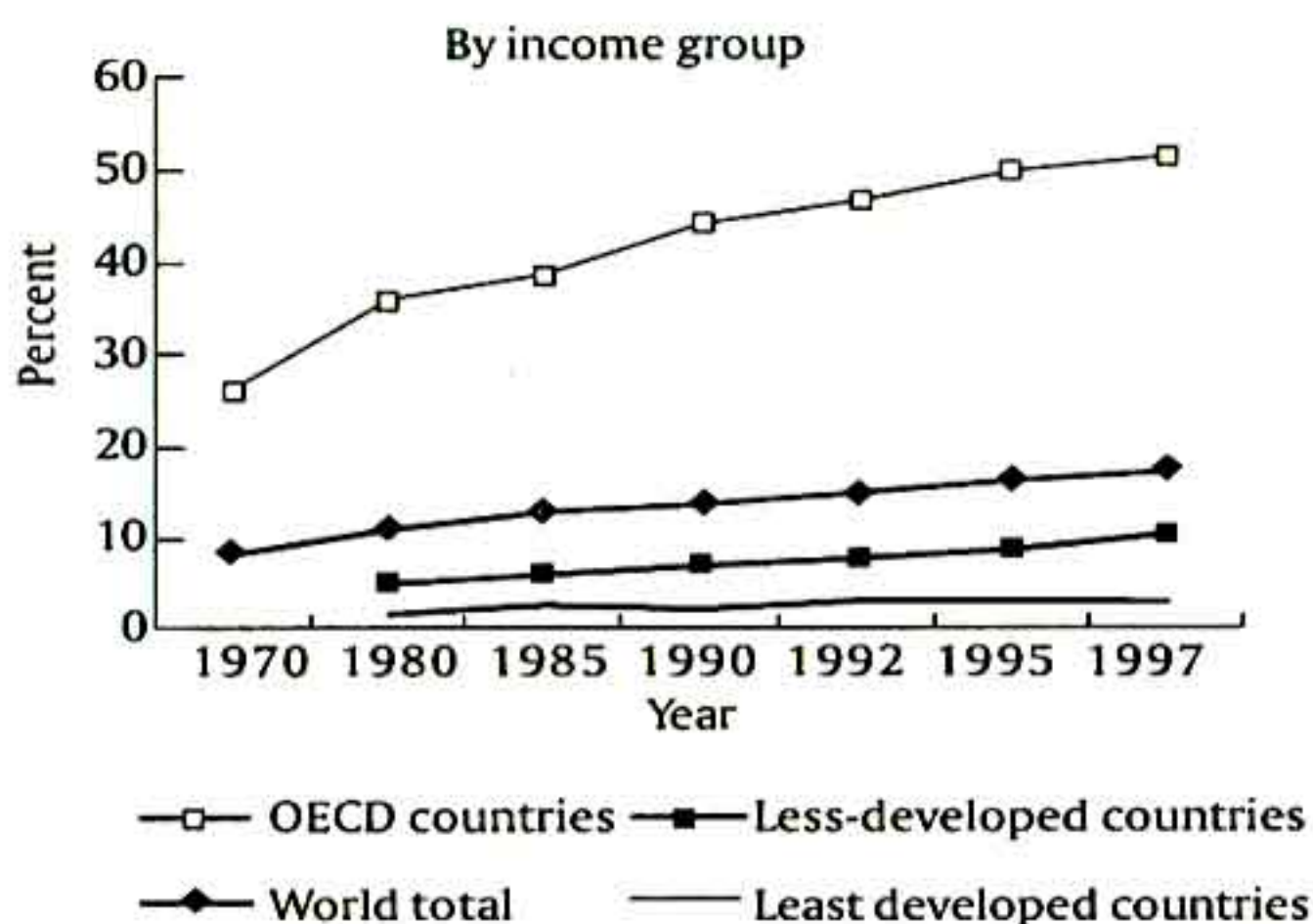
The information, we realise, pertains to the period close to 2000 and we have made significant progress since then. It is however clear that we have still a long way to go, and in the unfolding competitive global market, no country will now sell or lend us modern technology. As already mentioned, we have to substantially improve our capacity for innovation and generation of new technologies. **These developments certainly demand a new era of pervasive innovative effort, advanced studies and research at the frontiers of knowledge in a number of universities comparable to the best in the world.** It is conceded that the national laboratories are doing a commendable job; but they are no substitutes for university research. We are guilty of continued adhocism in, and indifference to, an area of activity, vital for our survival and progress. **We have mindlessly continued for long a system left behind by the British, expanding it, multiplying it and adding new floors to an edifice resting on a foundation laid for a totally different category of structure. We need to take up without any delay, the massive task of 'Reconstruction of the Higher Education System'.**

Age Group in Higher Education

Although we have a large system of higher education, only about 7.0% of the age group has the benefit of entering the portals of a university. The experience of the advanced countries has been that, as the economy advanced, the demand for manpower with higher education increased.

Figure 1 shows the enrolment ratio in advanced countries which keeps increasing progressively while it remains almost stationary in the least developed countries [The World Bank, 2002, p.46]. A slow progress is seen in the case of what is referred to as less developed countries. A disturbing trend is that in spite of the efforts made by the developing countries to promote an accelerated growth of tertiary education, the gap between the developing countries and advanced countries has only widened. It is reported that in 1980, the tertiary enrolment rate in the USA was 55 percent while the average for the developing countries was 5.0 percent [The World Bank, 2002, pp. 46-47]. In 1995 the rates were 81.0% for the USA and 9.0% for the developing countries. It may be stated incidentally that the income gap also has increased during this period. **We are in the unenviable position that the enrolment**

Figure 1: Gross Enrolment Ratios in Tertiary Education, 1970-97



Note: Least developed countries are those so classified by the United Nations; in 2002 there were 49 countries in this category.

ratio for India is less than even the average of the developing countries.

Since the 1990s, the trend in the advanced countries has been one of moving towards mass higher education. The following figures will give an idea of the position in developed nations [Table 3].

It is our objective to reach a developed nation status by 2020. Among the prerequisites will be augmenting the manpower available with education and training at the tertiary level. The question arises as to what might be the minimum enrolment ratio to be aimed at by the year 2020. We are well aware that correlation exists between economic development and enrolment ratio in tertiary education. But we have neither a graph nor a formula for quantitative

prediction. The variables are too many to establish any relationship. We have to be guided, therefore, by the experience of developed countries. It may be seen from Figure 1 that the average enrolment ratio in 1970 stands around 25.0% for the developed countries. It is the post-1970 period that ushered in the knowledge economy and it is during this period that the need for manpower resources with higher academic preparation has also gone through a process of augmentation. Taking into consideration the level of development we may envision by 2020, the societal demand that may build up for tertiary education by that time, and our own ability to create the infrastructure needed for higher education in terms of physical and human resources, we may aim at an enrolment ratio between 20% and 25%. Even this figure would mean more than 3.0 times the present ratio.

In a period of nearly 150 years of higher education, we have reached the present level and we want to achieve more than a threefold increase in 15 years. It looks formidable, almost

Table 3: Enrolment Ratio in Tertiary Education in Advanced Countries [1996]

USA	80.90%
Canada	87.30%
Australia	79.80%
Finland	74.10%
UK	52.30%
France	51.00%
Norway	62.00%
Belgium	56.30%
New Zealand	62.60%

Source: UNESCO, The World Education Report, 2000.

insurmountable but we need not despair. The enrolment ratio of China was:

in 1985	2.0% [Perils and Promise]
in 1990	3.0% [UNESCO: 2002]
in 1996	5.6% [UNESCO: 2002]

and it is supposed to have reached 15.0% [Gnanam, 2003] and Pallavi Aiyar reports it as 20.0% [*The Hindu*, 17 February, 2006]. China is said to have launched a massive expansion programme in higher education since late 1990s. It will be possible for us to reach the target contemplated provided:

- we have the will,
- we desire it strongly enough, and
- we adopt a strategy that is realistic, fecund and feasible.

It is obvious that the Central and State Governments alone cannot achieve this target through public sector institutions. We have to necessarily seek the partnership of private sector. We shall discuss the impact and implications of private sector participation later in a separate section.

Higher Education: From Public Good to Economic Good

Education from primary to tertiary levels has been considered a public good all along. While primary and secondary education are still considered as part of social service and therefore a public good, the status of higher education has undergone a major change. It is now widely accepted that higher education is a marketable commodity. Nevertheless, the process of transition is worth discussing.

In the 1970s, economists attempted to make a study of the social return from different stages of education. While primary and secondary education contribute significantly to the social development, the higher education, they concluded, benefited only the recipient and not the society at large. It was based rather on a simplistic approach, taking into account mainly the increase in income of the beneficiary and the corresponding income tax revenue to the government.

They have failed to consider the effect of higher education on research as well as development of leadership in various fields of activity. Influenced, perhaps, by such studies, the World Bank in

its report “**Higher Education: The Lessons of Experience**” [1994] declared higher education a non-merit good.

Following this report, the Department of Economic Affairs, Ministry of Finance, Government of India, prepared what it called a Discussion Paper on Government Subsidies in India [1997]. The paper declared higher education a non-merit subject, stating a series of grounds and recommended a reduction in subsidy of 40% in the first three years and 25% in the next two years. The argument of the authors of the note runs as follows:

Benefits of subsidies accrue primarily to the recipients. A significant portion of subsidies in higher education is appropriated by the middle class and high income groups, because shortages of seats in this sector are cleared by quality-based clearing in the shape of entrance examination, interview, group discussion etc., where the poorer sections of the society are competed out.

Although it was termed a discussion paper, no discussion of any significance took place at the national level. However, the Government of India started advising and encouraging the central institutions to devise and seek avenues for additional income, promising matching grants for income earned and announcing support for the promotion of corpus fund. The state governments made no announcement whatsoever, but have unceremoniously started withdrawing support for new developments and allowing, in a big way, private providers in all areas of higher education, thereby conceding rather silently that higher education is a marketable commodity and the beneficiaries must pay for it.

There seems to be in many countries of the world, as already mentioned, a pervading sentiment that higher education is an

economic good and the beneficiary has to pay for it. In the case of advanced countries, many have started viewing it as an industry contributing to the GDP. A plan prepared by the Education Development Board, Singapore, has titled it “Developing Singapore’s Education Industry”.

There are 1.9 million international students [UNESCO, 2003] who pursue higher education and they have become a potential source of income for the host countries. According to a 2002 study conducted by **IDP Education Australia**, an umbrella body promoting Australian universities abroad, the estimated demand for international higher education will reach 7.2 million globally by 2025 from 1.8 million in the year 2000. The global market, according to the British Council, is worth €20.0 billion a year. The maximum number of foreign students are in the USA; 0.57 million in 2003 [Jim Lobe, 2004] and the income in 2003 was \$13 billion [*The Times of India*, 26th Nov. 2004]. It is reported that 75% of the foreign students receive no financial assistance. The USA is in an enviable position: the foreign students through their tuition fees and living expenses contribute to its GDP; provide for it a reservoir of talent to choose candidates for academic positions, research projects and industries and also contribute to creating a cosmopolitan atmosphere in the campus and provide opportunities for the American students to have an exposure or, glimpse of an international atmosphere. The foreign student strength in the UK in 2003 was 0.27 million and its income was €3.0 billion, of which the tuition fees account for €1.5 billion [Shola Adenekan, 2004]. Australia with a small population had 0.16 million international students in 2004 contributing US\$4.5 billion and it was the nation’s ninth largest export and third largest service export. The universities in these countries are deliberately planning to offer programmes, create facilities and make visits to countries of

prospective students to explain their programmes and even enrol students there itself. "France, Germany, Holland and the Scandinavian countries are now offering graduate degree programmes in English. Countries in Asia such as Singapore, Malaysia and China are promoting themselves as emerging centres of excellence in education and are vying for their own slice of the international student market." [Nick Clark and Robert Sedgwick, 2005]

The Malaysian Government announced in 1993 that it would entertain applications from international universities to establish branch campuses. The motive behind this move was the ambition to establish Malaysia as the educational hub of the ASEAN region. Monash University, Australia, seized the opportunity, and after necessary initial steps and preparations, signed in 1996 a memorandum of understanding in Malaysia witnessed by the Prime Minister of Australia. In 1998, Monash University opened its Monash Malaysia campus.

In Singapore the Economic Committee led by the then Minister of State [Trade and Industry], BG Lee Hsieng Loong recognized, as early as 1985-86, education for its revenue growth potential, net worth to the economy as well as its export earning potential. In the year 2000, education industry contributed S\$3.0 billion to the Singapore economy, which was 1.9% of its GDP. Though a tiny country, Singapore had in 2001 a foreign student strength of 50,000. [EDB Education Industry, 2001]

Singapore has visualized that it possesses competitive advantages to become a global education hub. As part of its strategy to achieve this objective, it decided in 1998 to embark on a plan to attract at least 10 world class universities to establish a significant presence in Singapore within 10 years. As of 2001, eight renowned institutions

have been attracted to Singapore. Each institute is a centre of excellence in education and research. They are as follows:

1. MIT [USA] in 1998, entered into a collaboration agreement with Singapore's National University [NUS] and Nanyang Technological University [NTU] to form Singapore-MIT Alliance [SMA].
2. Johns Hopkins [USA] in 1998, set up Johns Hopkins Singapore [JHS]. It will collaborate with National University Hospital [NUS] to form Johns Hopkins–NUH International Medical Centre to pursue academic medicine.
3. Georgia Institute of Technology [USA] in collaboration with NUS, has set up 'The Logistics Institute – Asia Pacific' [TLI–AP] in Singapore in 1999.
4. The Wharton School of the University of Pennsylvania has set up the Wharton-Singapore Management University Research Centre [1999].
5. The University of Chicago Graduate School of Business has opened in 2000, a permanent campus in Singapore.
6. INSEAD [Paris] has made the largest investment in Singapore [2000].
7. Technische Universiteit, Eindhoven, the Netherlands has partnered NUS to set up the Design Technology Institute [DTI].
8. Technische Universität, München [TUM], and NUS have come together to establish a joint master's degree in industrial chemistry.

These institutions represent what is termed Commercial Presence in GATS. Singapore aims at increasing its annual income from

1.5% of GDP to 3% – 5% of GDP, besides creating on its soil a pool of talent which will enhance the academic and research ambience.

As we have multinational corporations in industry, we see the emergence of multi-university corporations to export education to a number of developing countries. The Global University Alliance [GUA] is a consortium that has nine members – 3 in Australia; 3 in the USA; and 3 in Western Europe. Similarly, Universitas 21 [U21] is another consortium consisting of 19 members – 4 in Australia and New Zealand; 5 in the USA; 4 in East/South East Asia; and 6 in Western Europe.

The developments, briefly stated in the foregoing paragraphs, establish conclusively and beyond doubt that a knowledge economy has opened up in a big way and higher education, both instruction and instruction materials, have become marketable commodities. **India has to accept and take note of the glaring fact that higher education is no more a public good only, but is also a popular economic good. The blazing heat of reality must melt all our frozen doctrines and dogmas.** When any service becomes a marketable commodity, it is natural that private enterprise seeks to move in and there is world wide pervasive private participation in higher education. India is no exception. The political parties, members of the public and the academics in India will have to necessarily reorient their approach to, and shed their reservations about private participation in higher education, and evolve a policy that will match our requirement and take cognisance of the global trend.

Private Participation in Higher Education

6.1 Government Unequal to the Task

We have already seen in section 4 that the percentage of age group entering higher education may have to be increased more than threefold by 2020. It is patent and beyond dispute that the Government alone would not be able to meet this challenge. The obvious complement is private sector.

6.2 Private Participation: World Scene

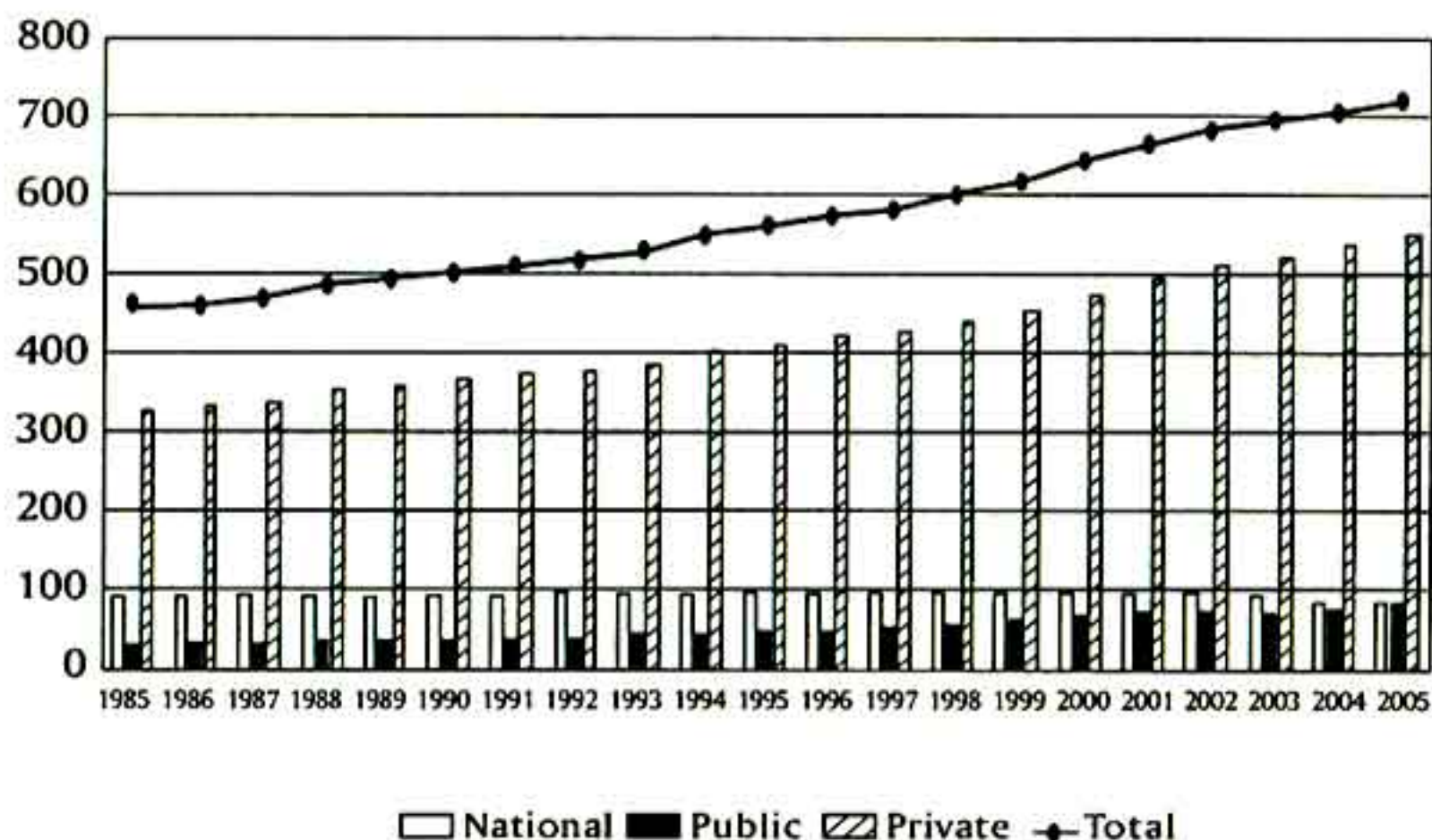
Private participation in education is not a new phenomenon. The Gurukulam System in India or the Academy of Plato and the Lyceum of Aristotle in Athens were private institutions. The system continues and is in existence even today. Many learn Bharatha Natyam and Carnatic Music under the Gurukula System. But it could not meet the demands of the society as a whole when industrial revolution took place. The disciplines were many; the manpower needed was large and the present classroom system, mostly funded by the Government, emerged. As increasing numbers completed primary school, the demand for secondary education increased, and pressure built up gradually for higher education. The

age group entering higher education remained modest even in the advanced countries during the major part of the 20th century. It is in the last 25 years that there occurred a progressively steep increase in the age group seeking tertiary education. The enrolment ratio in tertiary education for the eligible age cohort in the Republic of Korea skyrocketed from 5 to 80 percent between 1960 and 2000 [The World Bank, 2002, p.12]. In 1980, the enrolment rate in the USA was 55 percent; but by 1995, in a matter of 15 years, it reached 81 percent. If we take Japan, the total number of universities was 460 in 1985; but by 2005, it reached 726 – nearly 60 percent increase. The increase in number of universities in Japan is given in Table 4 [Figure 2]. It can be seen that in a period of 20 years between 1985 and 2005:

- There has been nearly a 60 percent increase in the number of universities;
- There is no increase in national universities;
- Public universities grew from 34 to 86; but
- Private universities grew from 460 to 726, showing an increase of 266.

As already pointed out, increase in demand and private providers to meet the demand have come into the picture in a significant way. The private institutions fall under three categories. They are as follows:

- i. Private institutions subsidized by the government.
- ii. Private institutions supported by philanthropy – gifts, donations, and contributions.
- iii. Self-supporting private institutions – non-profit and for profit.

Figure 2: Number of Universities in Japan – 1985-2005

Source: Embassy of Japan, Washington DC, USA, [www.maito.bashenfelder@embjapan.org]
March, 2005.

Table 4: Number of Universities in Japan – 1985-2005

Year	National	Public	Private	Total
1985	95	34	331	460
1990	96	39	372	507
1995	98	52	415	565
2000	99	72	478	649
2005	87	86	553	726

In Figure 3, the position of private institutions in a number of countries is given. Even in countries where higher education has been free, there is a trend towards levying tuition fees. An example is the decision of the Labour Government in the UK to levy a fee of \$1600 per year – modest though it is, it marks a departure from long established practice. In European countries in general, higher

education is free; but the decision of the UK is said to be having its impact on them. If we take Japan, there are 553 private universities out of a total of 726 [2005]. It is quite possible that private universities are also subsidized. In the USA, out of 2461 universities, 1835 are private.

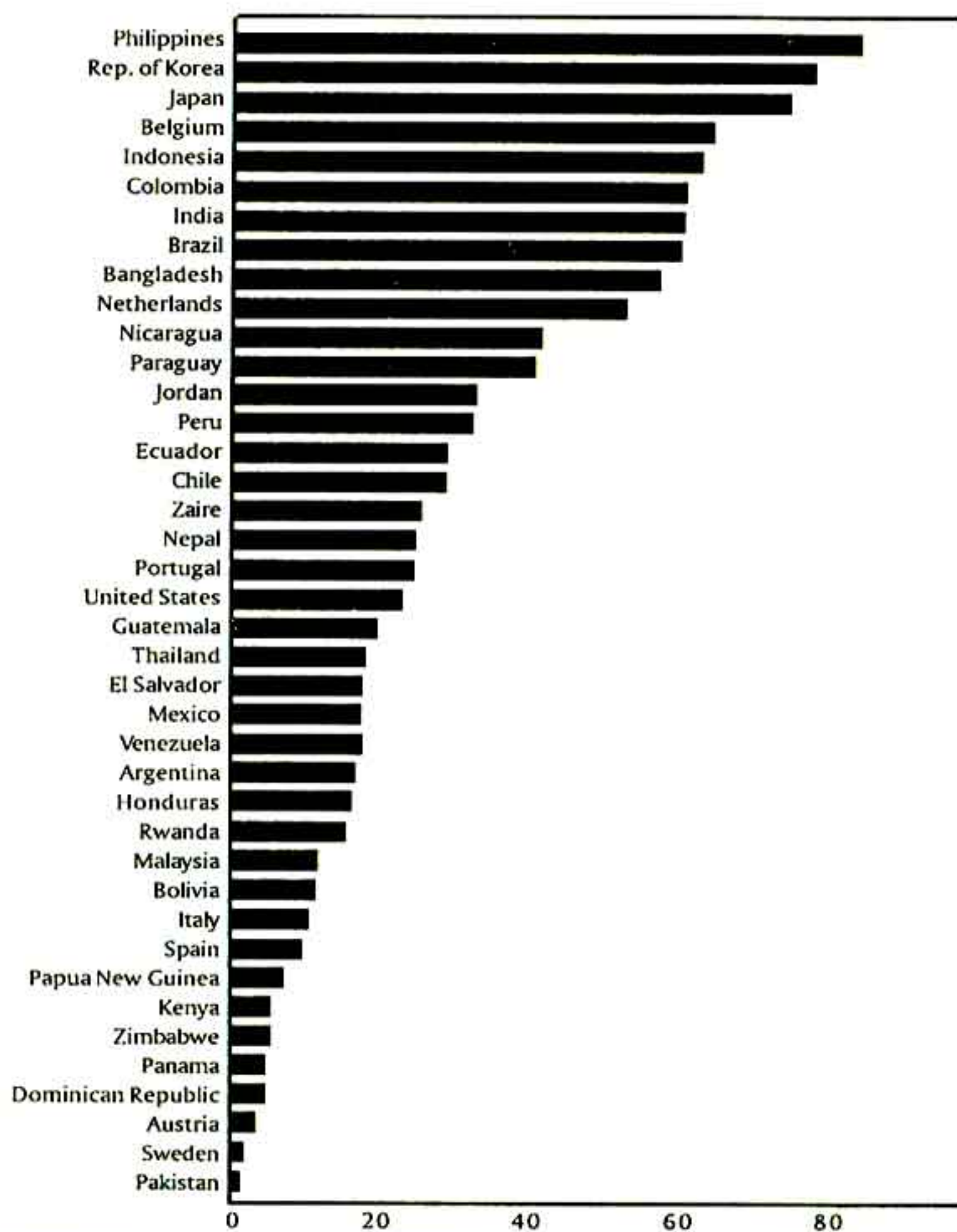
The process of privatization started much earlier in Latin American countries. Private institutions increased dramatically in many Asian and African countries from the 1980s. China is reported to have more than 800 private higher education institutions [The World Bank, 2000]. Gnanam [2003] reports that there are more than one thousand '*min ban*' [people run] universities in China and China has nearly doubled the higher education institutions since 1999. In Brazil, 80% of the institutions in higher education are in the private sector. Indonesia has 57 public universities and 1200 private universities [The World Bank, 2000]. Private tertiary institutions have proliferated in Korea, enrolling 85 percent of the total student population in 2000 [The World Bank, 2002, p.12]. The position may be summarized as follows:

The Government needs the complement of private institutions. The parents paying for the education of their wards in part or in full, has come to be accepted in general in the world of higher education.

Against this background we come to the Indian situation. As already stated, almost unannounced, the state governments have withdrawn from establishing new institutions in higher education.

6.3. Private Participation: National Scene

Participation of private entrepreneurs [self-financing] in education started in India as early as the eighties of the last century. It has now a record of nearly a quarter century. Nevertheless, a premier

Figure 3: Share of Enrolment in Private Higher Education [%]

Note: In a few Western European countries which have a high proportion of enrolments in private institutions (for example, Belgium and the Netherlands), higher education continues to be almost entirely financed by the state which subsidizes both public and private higher education institutions.

Source: The World Bank [1994]: "Higher Education: The Lessons of Experience", p.36.

institution like the UGC does not have the break-up of government, government-aided and private self-financing colleges in the field of higher education. The position in AICTE is also the same. It has only the total number of colleges and polytechnics. Information on medical education given in Table 5 has been gathered from the Ministry of Health, Government of India. In Table 6 is given information about technical education gathered from the publications of the Indian Society for Technical Education [ISTE]. The significant role that private providers have assumed even during a short period can be seen from the Tables 5 and 6 and Figures 4 and 5.

6.4 Private Participation: Tamil Nadu Scene

Tamil Nadu is one of the states in India where self-financing colleges have come in a big way. It may not be representative of the average condition in India at the state level, but it certainly is a forerunner

Table 5: Government and Self-financing Institutions – Health Education in India

S. No.	Discipline	Govt. Institutions	Private including Deemed Universities	% Private
	Medicine			
i	Medical Colleges	127	115	47.5
ii	Dental Colleges	32	173	83.49
iii	Nursing Colleges			
	B.Sc. Degree	22	327	93.69
	Diploma in Nursing	144	835	85.29

Source: Ministry of Health and Family Welfare, Government of India.

Figure 4: Government and Self-financing Institutions – Health Education in India

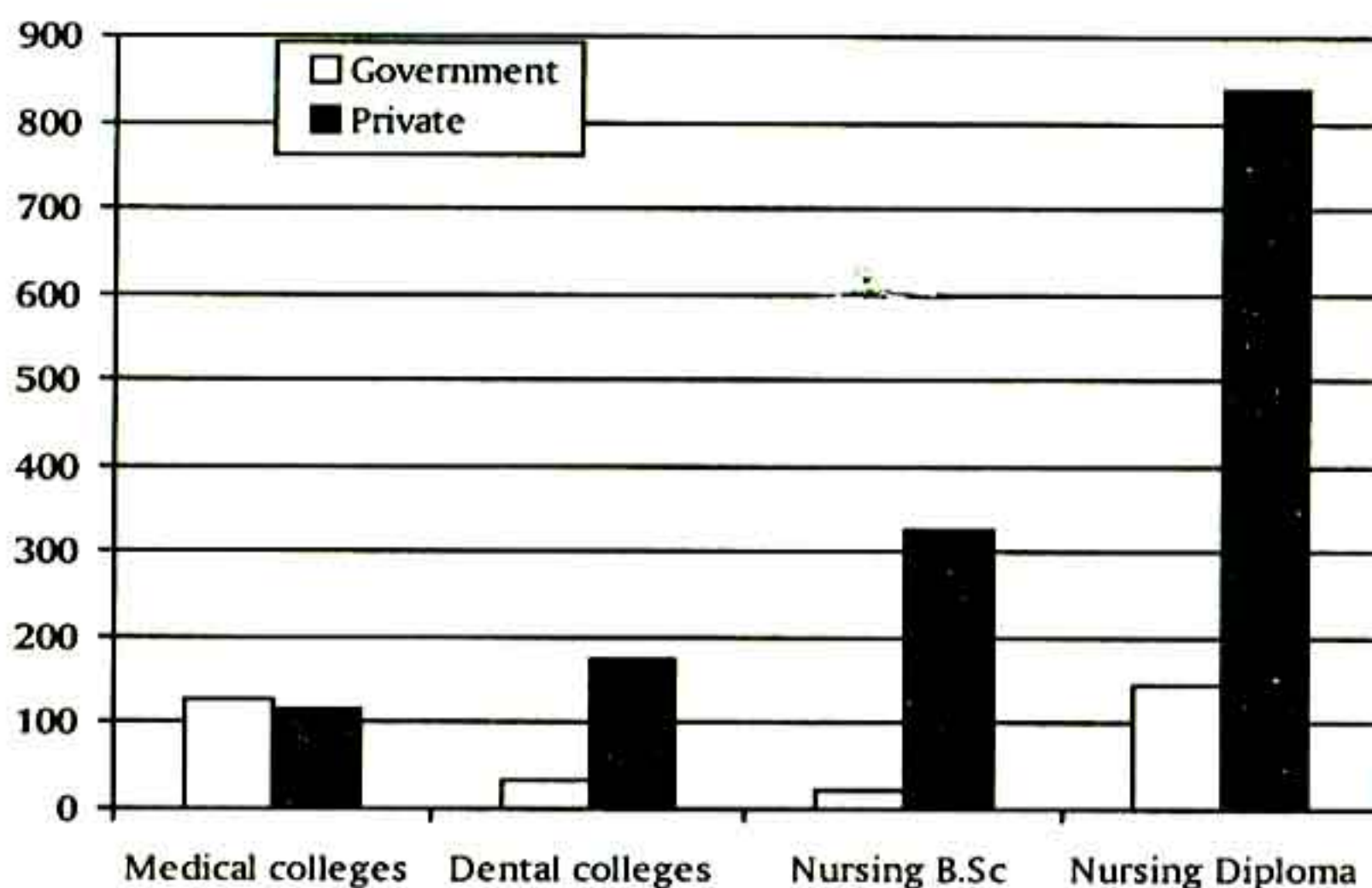
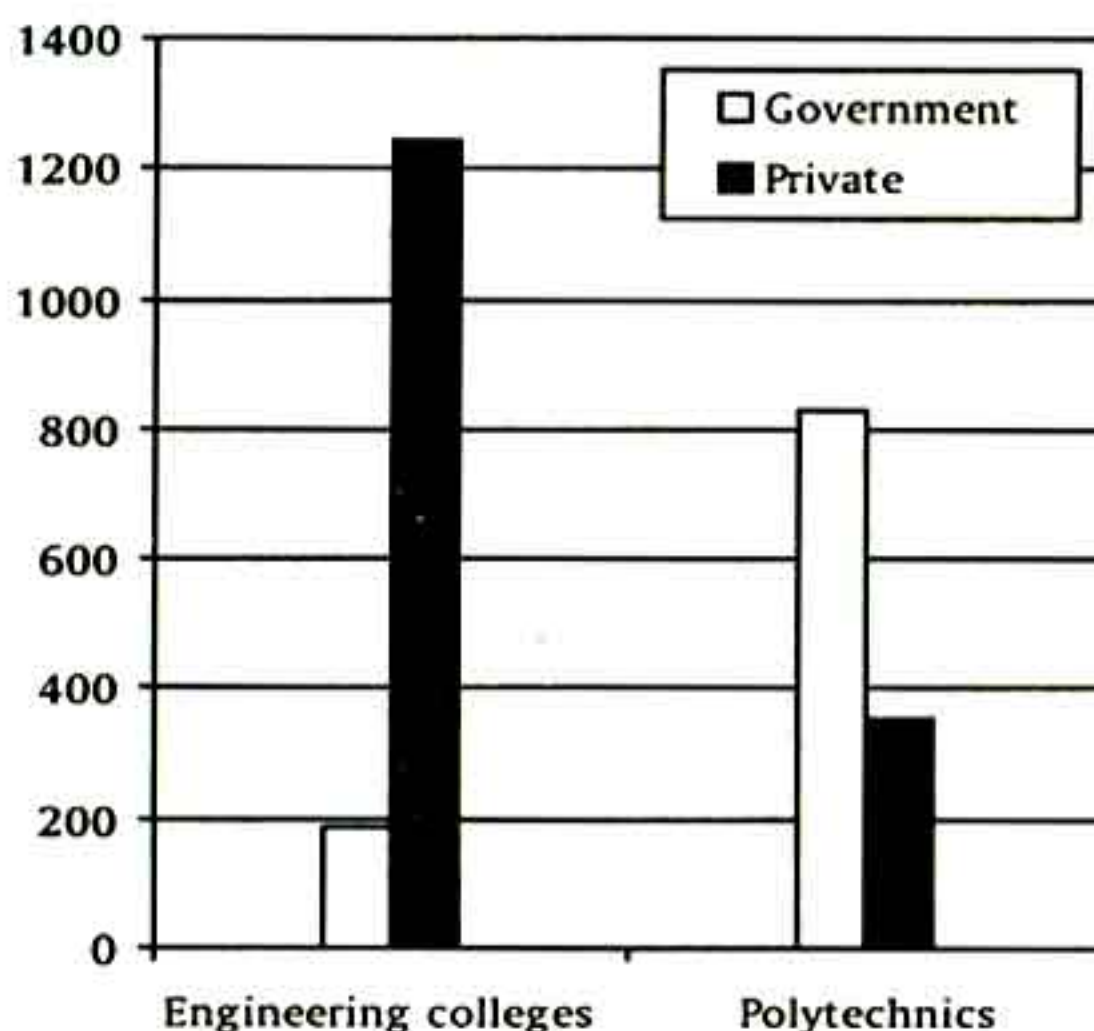


Table 6: Government and Self-financing Institutions – Technical Education in India

S. No.	Discipline	Govt. and Govt. aided institutions	Private including Deemed Universities	% Private
	Engineering & Technology			
i	Engineering Colleges	189	1243	86.80
ii	Polytechnics	828	355	30.00

Source: Collected from ISTE Annual Reports.

Figure 5: Government and Self-financing Institutions – Technical Education in India



of what is to come; it is only a matter of time. The Government of Tamil Nadu supports, in collaboration with the ICAR, the Agricultural University and its constituent colleges; the same can be said of the Veterinary and Animal Sciences University. It has a strong presence in medical education at the degree level. Private participation in medical education at degree level remains restricted because of the requirement of an attached hospital and resistance from the students, tacitly supported by the doctors. In dental medicine and paramedical services, Government presence is only nominal as can be seen from Table 8 and Figure 7. In arts and sciences, the private providers have overtaken the government and the government aided colleges, in a short period. [Table 7; Figure 6]. The government and the government-aided colleges also run self-financing programmes. It appears as though self-financing in

Table 7: Arts, Science and B.Ed. Colleges – Tamil Nadu

S. No.	Arts, Science and Education	Govt. & Govt. aided Institutions	Private Institutions including Deemed Universities	Private %
i	Arts and Science Colleges	193	251	56.55
ii	B.Ed. Colleges	21	22	51.16

Source: Policy Note, Higher Education Department, Government of Tamil Nadu 2005.

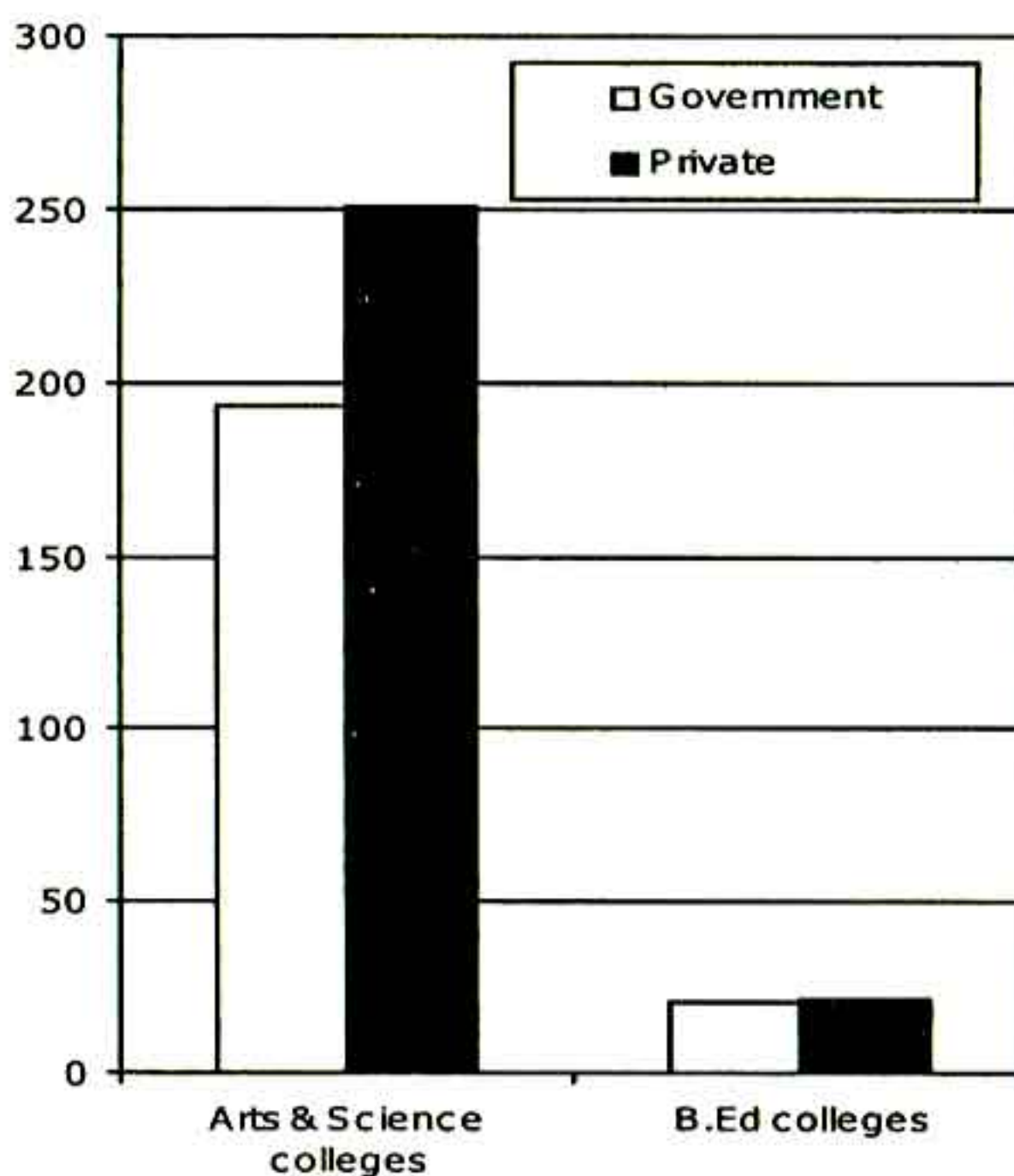
Figure 6: Arts, Science and B.Ed. Colleges – Tamil Nadu

Table 8: Medical and Paramedical Programmes – Tamil Nadu

S. No.	Medicine	Government Institutions	Private Institutions including Deemed Universities	Private %
i	Medical Colleges	14	8	36.36
ii	Dental Colleges	1	15	93.75
iii	Nursing B.Sc.	1	37	97.36
iv	Nursing Diploma	9	57	86.36
v	Physiotherapy	2	41	95.34
vi	Pharmacy	2	32	94.11

Source: Ministry of Health and Family Welfare, Government of India.

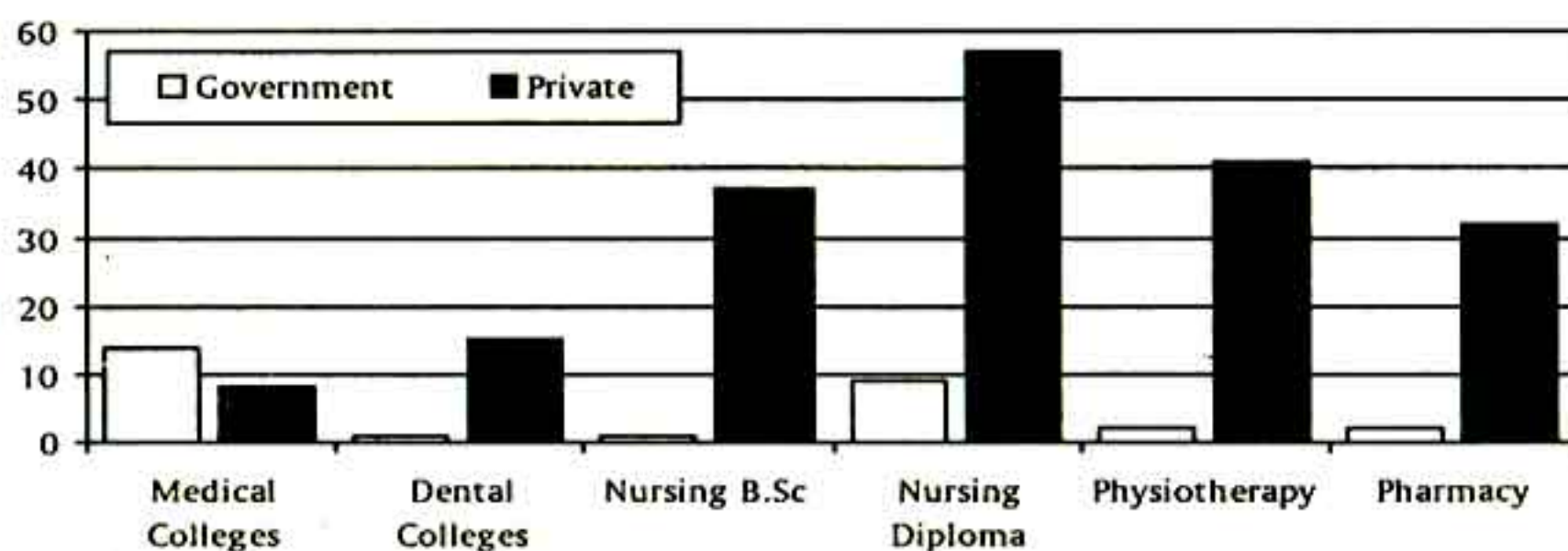
Figure 7: Medical and Paramedical Programmes – Tamil Nadu

Table 9: Engineering, Technology – Tamil Nadu *

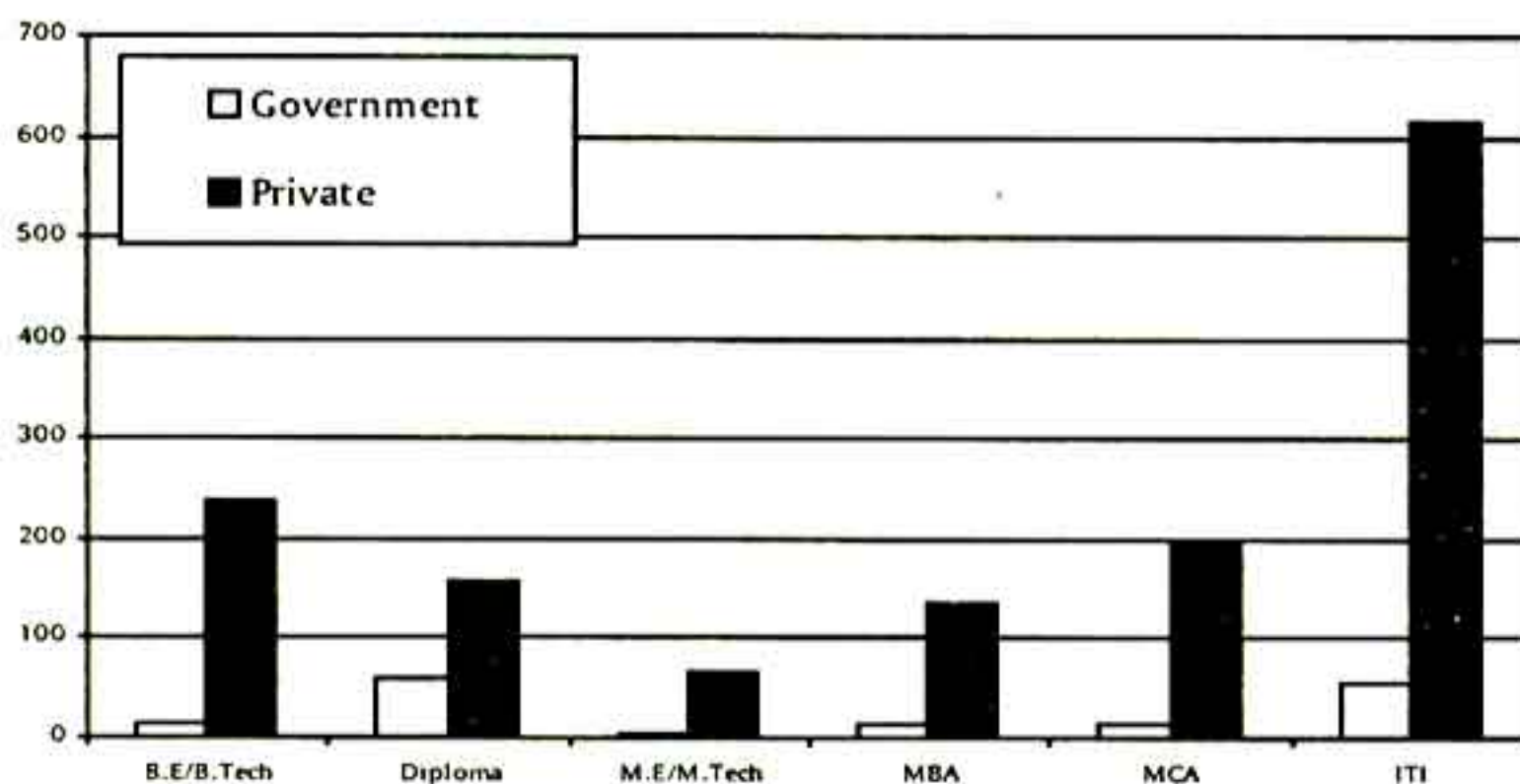
S. No.	Engineering / Technology	Govt. and Govt. aided Institutions	Private Institutions including Deemed Universities	% Private
i	B.E/ B.Tech.	15	238	94.07
ii	Diploma [Polytechnics]	58	159	73.27
iii	M.E/M.Tech**	4	66	94.28
iv	MBA	14	135	90.68
v	MCA	15	199	92.99
vi	ITI [Industrial Training Institute] ***	57	615	91.51

* Source: Southern Regional Office of the All India Council for Technical Education [AICTE].

** P.G. programmes in Engineering and Technology in Government colleges are self-financing; hence counted against self-financing.

*** Directorate of Employment and Training, Government of Tamil Nadu.

arts and science colleges is becoming a pervasive phenomenon with a few small islands of exception.

Figure 8: Engineering, Technology – Tamil Nadu

In engineering and technology, private sector almost eclipses the Government in undergraduate programmes like B.E., B.Tech., B.Arch., postgraduate programmes like M.E., M.Tech., MCA, MBA, and vocational programmes for craftsmen in ITIs. The State boasts of its human resource as the major attraction for the IT and manufacturing industries. The fact remains that the real contributors to this advantage are private providers as can be seen from Table 9 and Figure 8. Against this background, the unbridled and indiscriminate criticism, bordering on condemnation of the private sector by political leaders, administrators, and even academics is unfair and does not represent an appreciation and understanding of the realities of the emerging academic environment. Offenders there are among private providers, but they must be identified and dealt with. If there is an honest monitoring system with clearly defined procedures and benchmarks, quality can be ensured in academic performance and financial management.

6.5 Equity and Access

Although India had since ancient times considered and counted education as the most precious of acquisitions and possessions, it has denied the opportunity for education for the bulk of masses in the past. Higher education had remained the monopoly of a few. Even in advanced countries, higher education remained elitist even though the general public has contributed to the erection of the grand edifice called the university. Higher education in India, today, represents a service where facilities are created by the entire population, but are made use of only by a small minority. In no sector of public activity did so many contribute so much for so few, drawn from so small a section of the community. We are in an age of education for all and we want to open the gates of higher education to a much larger number than hitherto. Many who will

knock at the doors of education will in the future be first generation learners. No step that we now take to restructure or reorganize the system of higher education should in any way reduce or restrict the opportunities for these candidates who come from socially, economically and educationally disadvantaged sections. In order to ensure admission to deserving candidates, the Government must:

- i. continue to start higher education institutions and support the existing ones;
- ii. allow reasonable concessions in tuition fees and grant scholarships for deserving candidates;
- iii. devise, at the national level, a scheme of loans with easy procedures for granting and efficient provision for collection later.

The World Bank in its publication **Higher Education: The Lessons of Experience** [1994], states as follows:

Government can improve the efficiency of existing student loan schemes and broaden their coverage. Experience to date with existing loan schemes in about fifty industrial and developing countries has been disappointing. Because of heavily subsidized interest rates, and high administrative costs, the financial performance of loan schemes has been unsatisfactory. But the experience of Colombia and the Canadian province of Quebec, for example, shows that it is possible to design and administer financially sustainable programmes [p.8].

India has a well-established banking system and administrative machinery and can make it a success. Even government institutions must levy reasonable tuition fees and subsidy must be given directly to the students.

6.6 Research and Private Universities

The importance of universities as a fertile soil for research, especially basic, has been established by the long prevailing practice in the world in general and in the advanced countries in particular. We have mentioned earlier that we must embark on a mission of massive promotion of advanced research in universities and actuate the dawn of a new era of university research in terms of its pervasiveness, direction, and dimension.

It is to be realized that postgraduate education at levels of excellence and basic research at the frontiers of knowledge cannot be sustained in adequate numbers by private providers who would depend mainly on tuition and special fees. It will take a long time before we could witness private institutions in the horizon with the rich research tradition as in the USA. The immediate responsibility is that of the state even though we do not rule out modest participation of private universities in research. Many of them may need projects which the Government departments may offer.



Affiliating System: A Curse on Higher Education

Any reform worth the name in higher education must start with the total abolition of the affiliating system without even a trace of it left behind. It is outmoded, anachronistic and acts as a real curse on the Indian higher education system. It has converted

- i. the colleges into tutorial institutions, and
- ii. the teachers into tutors who get paid for the classes they handle.

Academicians in advanced countries participate in the prescription of the curricula and syllabi, admission of students, instruction in the classroom, setting question papers and valuing the answer books of the students they teach and declaring results. But in India, the teachers in affiliated colleges teach the subjects allotted to them for the syllabus prescribed by an authority elsewhere, and prepare the students for taking tests set by others, the answer books to be valued by some others and the results to be published by the university, which is physically and administratively separated. Nearly 3.80 lakh teachers in affiliated colleges attend the institution during limited hours, take their lectures as a matter of routine, and go home with

no great sense of participation in the academic and administrative affairs of the system. The affiliating system as such does not exist anywhere in the world except India, Pakistan, and Bangladesh.

As early as 1902-03, Lord Curzon, the then Viceroy, expressed his unhappiness over the continuance of the affiliating universities and condemned it as the servile adherence of the Indians to a system given up in the country of its origin. The Government of India, in its Resolution on Indian Educational Policy, expressed in 1913 the fear that

The day is probably far distant when India will be able to dispense altogether with the affiliating university (Chopra *et al.*, 1974).

The fear expressed had in it at least the desire and a streak of hope that the affiliating system, later if not sooner, may be abolished. But that was not to be.

It has continued all along, expanded, multiplied and has become stronger in its stranglehold on the system. The innovative effort made by the Education Commission (1966) to seek a relief at least partly by introducing a system of autonomous colleges did not make much progress. The National Education Policy 1986 has also contemplated the replacement of the affiliating system by a freer and more creative association of universities with colleges [para 5.28]. All these efforts notwithstanding, there were only 136 autonomous colleges out of 16885 in 2003-2004. [UGC Annual Report, 2003-04]

A new manifestation of the affiliating system portends disastrous consequences for professional education in the country. Universities have been established in engineering and technology, in medicine and in law, not for education and research, but merely for affiliating

the colleges. The university is nothing more than an office with the Vice-Chancellor and Registrar; it is only a board of examinations glorified as university. Another version is one of an established university to which all the professional colleges are affiliated. The following are a few examples:

- i. The Tamil Nadu Dr. M.G.R. Medical University has all the colleges of general medicine, dental medicine, nursing and physiotherapy affiliated to it.
- ii. The Tamil Nadu Dr. Ambedkar Law University has all the law colleges in the state affiliated to it.
- iii. Anna University, Chennai, a technical university, has all the engineering colleges in the state numbering about 240 affiliated to it.
- iv. Dr. Visveswariah Technological University, Belgaum, Karnataka has all the engineering colleges in the state, 121 in number, affiliated to it, the exceptions being constituent colleges of universities.
- v. Rajiv Gandhi University of Health Sciences in Bangalore has all the medical institutions in Karnataka affiliated to it.

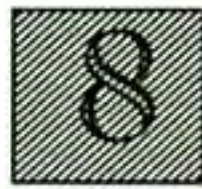
All the colleges affiliated to a university will have the same curricula and syllabi; no room for change, no scope for any experimentation or local initiative; almost a frozen academic situation in the period between syllabus revisions. This is a monstrous development, disastrous for professional education; non-existent anywhere in the world and is basically against the established concept of academic freedom. This new scourge is slowly spreading and enveloping the rest of the states like the spread of waterweed over a pond. This development is the handiwork of the politician and the bureaucrat combine, and does not have behind it any counsel or guidance from the academia. The INAE Report, a

document submitted by the Indian National Academy of Engineering to the Parliamentary Committee has stated in a language of mild disapproval as follows:

Presently, there is a serious concern regarding the systemic functioning of technical universities under the state executive orders. The state technical universities have imposed a uniform syllabus and examination system throughout the state which is against the spirit of education and is not conducive for innovative development of education system and results in excessive bureaucratization and lack of accountability [p.3].

The present system of single state technical university with a large number of affiliated institutions needs to be decentralized at the state level [p.3].

There is hardly any evidence of the reversal of this trend; on the other hand, more such institutions may come up in due course in the country.



Rigidity of the System

Indian Higher Education System is extremely rigid and is singularly incapable of accommodating the demands of globalization. A student completing two years of a three-year degree programme in India can move to one of the US universities and get reasonable credit for the courses he has taken; but not in India. If he is to join another university in India, even though the medium of instruction is the same, he will have to seek admission at the first year of the programme. Provision for giving credit to the knowledge acquired midway does not exist.

The system still adheres to certain primitive practices: the academic session consists of a whole year; the success or failure of a student depends on his performance in one single examination at the end of the year. If, in a degree programme consisting of seven or eight subjects to be studied in an academic year, a student happens to fail in one subject in the final year, he will carry the label of a failed student who might not be eligible to have the distinction of a class or rank.

The number of subjects for an academic year is fixed and a student, irrespective of his capacity, must take all the subjects – not

a subject more; not a subject less – and sit the examination in all of them.

Semester pattern, continuous internal evaluation and credit system may appear, to an enlightened reader, as the obvious solution since they are an integral part of the international scene; but that does not apply to the Indian system. It may be stated unequivocally that no reform will be of any consequence unless these issues are directly addressed to, for a solution. Higher education in India must be liberated from its rigidity and made flexible. No tall structure can ever be built out of rigid and brittle material.

GATS

We are not aware of the position of the Ministry of Human Resource Development regarding GATS. There has so far been no organized discussion among the members of the academic community. The Government of India has not made any announcement so far. A Committee headed by the chief of the Science Advisory Council to the Prime Minister of India, Prof. C N R Rao, was appointed and the Committee is reported to have submitted the report. The report has not been published.

The GATS defines four ways known as Modes of Supply in which services can be traded. Previous international trade agreements covered trade in products, but never in services. GATS is the first ever set of multilateral rules covering international trade in services. The Modes of Supply in higher education are as given in Table 10.

All the four components are in operation even without the signing of GATS. The beneficiaries of internationalization that has already taken place are the advanced countries. One would normally expect that the advanced countries would be enthusiastic about signing GATS for higher education services. It does not seem to be the case. Countries like the USA, Australia and New Zealand are

Table 10: Modes of Supply – GATS

Mode of Supply According to GATS	Explanation	Examples in Higher Education	Size/Potential of Market
Cross-Border Supply	<ul style="list-style-type: none"> the provision of a service where the service crosses the border (does not require the physical movement of the consumer) 	<ul style="list-style-type: none"> distance education – e-learning – virtual universities 	<ul style="list-style-type: none"> currently a relatively small market–seem to have great potential through the use of new ICTs and especially the Internet
Consumption Abroad	<ul style="list-style-type: none"> provision of the service involving the movement of the consumer to the country of the supplier 	<ul style="list-style-type: none"> students who go to another country to study 	<ul style="list-style-type: none"> currently represents the largest share of the global market for education services
Commercial Presence	<ul style="list-style-type: none"> the service provider establishes or has presence of commercial facilities in another country in order to render service 	<ul style="list-style-type: none"> local branch or satellite campuses twinning partnerships franchising agreements with local institutions 	<ul style="list-style-type: none"> growing interest and strong potential for future growth most controversial as it appears to set international rules on foreign investment
Presence of Natural Persons	<ul style="list-style-type: none"> persons travelling to another country on a temporary basis to provide service 	<ul style="list-style-type: none"> professors, teachers, researchers working abroad 	<ul style="list-style-type: none"> potentially a strong market given the emphasis on mobility of professionals

said to be seeking clarifications and making suggestions for modification.

A large number of academic associations in advanced countries have discussed GATS and formulated their viewpoint. I may refer to the joint declaration of three of the following four associations:

- i. Association of Universities and Colleges of Canada [AUCC]

- ii. The Council for Higher Education Accreditation of the USA [CHEA]
- iii. European University Association [EUA]
- iv. International Association of Universities [IAU].

Among the above four, IAU brings together institutions and organizations from 150 countries. The first three organizations mentioned above have brought about a joint declaration signed in September 2001, calling for the respective countries of the associations not to make commitments in Higher Education Services or in the related categories of adult education and other education services. The joint declaration was endorsed by the International Association of Universities [IAU].

WTO itself is the creation of advanced countries. If we look at their economy, of the three sectors, i.e., the primary sector, secondary sector, and service sector, one will find that the services occupy a dominant position. If that be the case, why is it that these organizations which are from advanced countries advise their governments against signing GATS? It is a matter for consideration. GATS, in short, confers certain rights and in return commands commitment to certain obligations. These countries are already enjoying the rights and they may be wondering as to why they should commit themselves to the reciprocal obligations. As for our part, we have to consider the pros and cons and take a decision on signing GATS, if there is still time.

Among the countries that send students abroad for higher studies and contribute to the earnings of advanced countries under 'Consumption Abroad' mode of service in GATS, India stands at the top. Indian students in some of the advanced countries in 2003-04 are as follows [Nick Clark and Robert Sedgwick, 2005]:

i.	USA	79,736
ii.	Australia	20,794
iii.	UK	14,241
iv.	Germany	4,112
v.	China	2,563
vi.	Canada	2,096

This number is increasing. Recent research by IDP Australia predicts that 8,00,000 students from India will be looking to study abroad in 2025, and IDP aims at capturing at least 10 percent of that growth. **Besides attracting students from abroad, especially from developing countries, even to meet the demands of our own students, we have to upgrade our higher education system in all dimensions.**

The Higher Education System in India may, in general, be in an unsatisfactory state: but considering the size of the country and the number of institutions, there are still reasonable number of universities and colleges that touch levels of excellence. India can also quickly upgrade sufficient number of existing institutions. **Knowledge provision is one area in which India should not shrink from entering into competition. With 3000 years of cultural evolution and pursuit of learning and the natural advantage that it confers in knowledge-related efforts, India has certain native advantages.**

Our Strength: Our Weakness

We may perhaps make a few brief observations about our areas of strength and weakness also. We have the physical resources, the institutions and the faculty, though modest in count and average competence. We also have a long teaching and research tradition. We do not have to create most of them totally afresh. We need to reorganize on a massive scale what we already have, to add dynamism, flexibility, competitiveness and strength.

- We have over 3000 years of cultural evolution, with a **continuous tradition of pursuing higher knowledge, though** the opportunity was confined to a few.
 - We have, as already mentioned, a **long tradition of training in abstract thinking and in mathematical sciences**. Arya Bhatta, Bhaskara down to Srinivasa Ramanujan, C V Raman and J C Bose are the products of this tradition.
 - Even in modern education, we have nearly 150 years of experience starting with the establishment of universities in Kolkata, Mumbai and Chennai.
 - India is the only developing country to merit a Nobel Award even during the earlier part of the 20th century.
-

- In every field of knowledge we have today men and women, comparable to the best in the world: may be only a few for our size, but significant enough in absolute numbers.
- Our standing in science and technology is ahead of most of the developing countries and is ahead of some of the advanced countries that are small.
- We have institutions of higher learning, though very few in number, that will compare favourably with the advanced seats of learning in developed countries.
- Our weaknesses are mainly the chains and shackles in the form of our rules and regulations, procedures and precedents, inherited from a colonial regime, perpetuated and further reinforced by our own bureaucracy. It needs more than ordinary will to break them and forge them into a new mould. Even an advanced country like Australia has brought about, in succession, four Acts to prepare itself to compete in the world education market and it has done it with remarkable success. If we are to sign GATS – if there is still time beyond January 2005 – we must necessarily make a thorough analysis of the perceived and experienced obstacles at the level of the institution, university and the government and bring about changes with imagination and courage.
- We have enough recommendations and guidelines already in the various reports prepared, to lead us to bring about the changes.
- The AIU itself has conducted a Round Table on “Internationalization of Indian Higher Education” in 2001

and the proceedings and recommendations of the Round Table have ample material to help us formulate a line of action.

- **If we shrink away from competing, we will stagnate and decay. If we enter the competition, we may struggle but sustain, succeed and excel.**
- There are many who talk about “Threats in Higher Education in the Context of Globalization”. No doubt, threats there are, but more of them are only in our hesitation and vacillation: in our rules, regulations, checks and balances – in reality more checks than balances – conforming to precedents and protocols. Opportunity is what the higher education market offers.



Reconstruction Programme

11.1 Hierarchy of Reforms

The system that we are dealing with, consisting of 342 universities and 17625 colleges, is a large one. It also represents a wide spectrum, consisting of small colleges in a remote corner of the country at one end and mega universities in metropolitan cities at the other. Taking into account the prevailing international practices and the emerging world trend, we are convinced that the Indian system that has long remained without any major change in structure and governance requires, not reshaping, nor reinforcing, but recasting in a new mould. We also realize that we undertake the reconstruction of Indian higher education system in order to construct a knowledge society. We do realise the dimensions of the task. It is somewhat extensive and immense, but by no means insurmountable. It has to be a national mission, transcending party considerations and ideological differences. It may be a 15-year project consisting of three 5-year plans, spanning from 2006-07 to 2020-21. The project may be resolved into components, and for each component a well-defined target with time frame may be stipulated and a plan of action with annual reviews, comprehensive mid-term, and

quinquennial total evaluations must be undertaken. Corrections, if necessary, could be introduced at every stage to achieve the target.

We may divide our operations into three levels as given below:

- i. Minor Reforms
- ii. Medium Reforms
- iii. Major Reconstruction.

Operations in all the three may progress in parallel. The time frame may be 15 years, i.e., from 2006-07 to 2020-21, both the years inclusive.

11.2 Minor Reforms

These may also be termed urgent reforms. The steps to be taken are as follows:

- i. Introduce semester pattern in all the educational institutions.
- ii. Bring a major reform in the examination system by adopting continuous internal evaluation and well-defined academic auditing.
- iii. Adopt credit system.

All these three are in operation in a few institutions in each state and therefore, it is possible to organize workshops and train the faculty members from all the other institutions. We may set a time limit of three academic years; prepare the timetable and implement the programme on a war footing.

The UGC has recently come out with a scheme of cluster of colleges. Any plan to bring about coordination to ensure optimal utilization of scarce resources is welcome. It is desirable to prepare an operational document setting out the *modus operandi* for

establishing the clusters, defining the coordinating machinery and areas of cooperation. A beginning may be made with a few clusters in each region, gather experience, develop the system and replicate it as pervasively as possible.

11.3 Medium Reforms

11.3.1 Categories of Institutions

Besides the full-fledged universities and institutions of national importance, we have three categories of academic establishments. They are:

- i. Affiliated Colleges
- ii. Autonomous Colleges
- iii. Deemed Universities.

It is our aim to dispense with the affiliating system. We have to take into account the fact that there are over 17625 affiliated colleges [2005], and more will be established in future to meet the local demands. We have to consider the devices for liberating them from this compact.

We are convinced beyond doubt that in the best interests of higher education, the affiliating system must be faded out. We do realize the formidable nature of the task. It is pervasive, enormous in number, caters to 90 percent of undergraduate and 66 percent of the postgraduate students, employs 83.38 percent of the teachers and has been in existence for over 150 years, that is from the inception of higher education in India. But once it is decided that it is an unhealthy practice and it has to go, then it must go, however daunting, even intimidating the task may be.

The affiliated colleges depending on their size, tradition, academic standing and reputation may be, over the years, transformed into one of the following categories of institutions:

- i. Deemed Universities
- ii. Autonomous Colleges
- iii. Junior Colleges.

11.3.2 Deemed Universities

We may start with deemed universities. The system is not new. It used to be granted by the MHRD, on the recommendation of the UGC, to institutions of excellence, mostly in a single major faculty like social science, home science, and basic sciences or even in a single discipline like mathematics, economics, mining, statistics, etc. Later it was liberalized and granted to arts and science colleges, engineering colleges, medical colleges that have a standing. There are instances where institutions were granted deemed university status at the inception itself. The situation is somewhat ambivalent, even confusing.

The deemed university will form an important component of the higher education system that we now contemplate.

The requirements to be satisfied must conform to what are to be expected of a university. These must be specified clearly in a special document and strictly insisted upon. It must be subjected to appropriate monitoring by the University Grants Commission. The student strength may be between 4000-6000 as a minimum for multi-faculty universities; around 3000 to 5000 for single faculty institutions, and much smaller for centres of excellence in a single discipline like economics and mathematics.

The existing colleges that meet the requirements stipulated may be granted the status. We may encourage the managements of promising institutions to develop the physical and human resources and evolve the academic ambience to qualify for the status. At least 6% of the institutions may be upgraded to the level of deemed to be university status by 2020.

11.3.3 Autonomous Colleges

The recommendation for the establishment of autonomous colleges was made four decades ago by the Education Commission [1966]. Nothing happened for a decade thereafter. It was in 1978-79 that Madras University and Madurai Kamaraj University in Tamil Nadu granted autonomous status to a few colleges, established the necessary norms and set up a precedent. There was no progress at the national level. By 1986, twenty years after the recommendation was made, the number reached 21, that too with most of the colleges in Tamil Nadu.

The academic significance of autonomy for colleges in the Indian context was realized by the authors of the National Education Policy 1986 and it was assured as follows:

In view of mixed experience with the system of affiliation, autonomous colleges will be helped to develop in large numbers until the affiliating system is replaced by a freer and more creative association of universities with colleges. Similarly, the creation of autonomous departments within universities on a selective basis will be encouraged [para 5.28].

The Programme of Action 1986 on the National Policy 1986 states as follows:

It is envisaged that about 500 colleges should be developed as autonomous colleges in the Seventh Plan, and the existing affiliating system might be replaced in the long run [p.21].

It can be seen that the National Education Policy and the Programme of Action contemplated action on the gradual removal of the affiliating system. In suggesting the abolition of the affiliating system in this document, [Section 11.3.1], we are not raising a new demand, but are pleading for the implementation of a proposal pending for long.

The rationale for the figure 500 was the assumption that 10% of the 5000 colleges then existing must be given autonomous status. It is now 20 years since the requirement was specified, but the number is around 136, not even 150. This gives an example of how even simple recommendations that could have been implemented without any discernible hardship have not been done. The higher education system was evolving on its own, unplanned, undirected and with adhocism as the dominant characteristic.

The UGC has done more than one exercise with the help of expert committees to improve and perfect the norms for granting autonomous status. Each exercise was intended to make the procedure simpler and remove avoidable clauses that caused delay. One more review may still be needed to give the norms a more positive and fostering character. Autonomous colleges may consist of two categories:

Category I: The institution is autonomous, empowered to go so far up to finalizing and submitting the results to the university. The university only will award the diploma or the degree as the case may be.

Category II: The institution will enter into an MOU with a university which will permit the college to award the degree with the stipulation that it has the seal of the partner university. The university will stipulate its powers for monitoring and reviewing in the MOU agreed upon by both the institutions.

An autonomous college must be reasonably large and have a student strength of about 3000 and above. We may increase the autonomous colleges by 5% every 5 years and may achieve 15% by 2020.

The autonomous college faculty must consist of professor, reader, and lecturer and no postgraduate programme must be permitted unless the stipulated norms concerning categories, number and qualification are fully met.

11.3.4 Junior Colleges

The colleges that fail to meet the requirements for autonomy may be converted into Junior Colleges or Community Colleges offering two year junior degree programme or a post-secondary diploma programme.

We have over 17625 institutions today to prepare the boys and girls for the undergraduate and postgraduate degree award, but we hardly have even half that number for education and skill training to meet the manpower demand in diverse fields of manufacture and service. An abstract of educational and training institutions in India according to **Selected Educational Statistics 2003-04** as on 30th September 2003, published by the Planning, Monitoring & Statistics Division, Department of Secondary and Higher Education, Ministry of Human Resource Development, Government of India, 2005 is given in Table 11.

Table 11: Educational Institutions in India [30.09.2003]		
1.	Universities	217
2.	Deemed Universities	74
3.	Institutions of National Importance	13
4.	Research Institutions	85
5.	Arts, Science and Commerce Colleges	9427
6.	Engg., Technology and Architecture Colleges	1068
7.	Medical Colleges [Allopathy/Ayurveda/ Homeopathy/Unani/Nursing] Pharmacy, etc.	783
8.	Teacher Training Colleges	900
9.	Others, including Law, Management, MCA, IT, Agriculture etc.	1991
10.	Total Higher Education Institutions [5 to 9]	14169
11.	Teacher Training Schools	1303
12.	Polytechnic Institutions	1105
13.	Technical/Industrial Arts & Craft Schools*	4877
<i>*Source: Annual Report of Ministry of Labour.</i>		

If we consider our workforce, 9% is in the organized sector and 91% is in the unorganized sector. Our educational institutions are mostly organized to meet, and that too not fully, the manpower needs of the organized sector. Even there, the skill development is not appreciable. The manpower preparation for the unorganized sector is almost neglected. Part of the labour force in the unorganized sector is illiterate. In the literate component, a substantial part is untrained and skill-wise illiterate.

It is stated in the Report of the Committee on “**India Vision 2020**”, Planning Commission, Government of India, 2002, headed by S P Gupta as follows:

Currently only 5 percent of the country’s labour force in the 20-24 age category have undergone formal vocational training, compared with 28 percent in Mexico, 60 to 80

percent in most industrialized nations, and as much as 96 percent in Korea. A strategy to achieve full employment must include as an important component, a strategy to ensure that all new entrants to the workforce are equipped with the knowledge and skill needed for high productivity and high quality [p.50].

Even taking a very liberal view, the present capacity accounts only for 14 percent of new entrants to the workforce [Gupta, 2002]. There is a massive need for skill training at the post-secondary level. Somehow, and surprisingly, this requirement has not been addressed adequately so far. Creation of wealth depends on productivity and productivity is directly related to skill development in every sector. The junior colleges proposed may represent a very wide spectrum of education and training to fulfil the requirements of industries and services. The 50,000 farm schools announced by the Chairman, Agricultural Commission for farmer-to-farmer training is a realization of the training need, though it is at a different level. The Government may even develop a liberal assistance programme to the managements of the colleges that do not satisfy the requirement for autonomous status, to transform them into good junior colleges to meet, in their new incarnation, a real need, and serve the society thereby, immensely better.

11.4 Universities

11.4.1 Emerging New Models

In the domain of higher education there is a resurgence all over the world and every country, even the advanced ones that are perceived to have a very well-developed higher education system, are reorganizing it in a small or big way as the case may be. Singapore among the small countries and China among the large ones, provide a model for reorganizing higher education. We may briefly look at them, not to imitate but to gather information as input to our data.

11.4.2 Singapore

Planners of Singapore higher education sector concluded that Singapore has several competitive advantages that positions it to be a global education hub, and to achieve this goal they have envisioned the following:

To develop a self-sustaining education ecosystem offering a diverse and distinctive mix of quality education services to the world, thus becoming an engine of economic growth, capability development and talent attraction for Singapore.

In order to realize this objective, they have, after an all-embracing analysis and indepth study, proposed a 15-year plan to develop a three-tier system:

1. The apex would be world-class universities which will continue to be niche centres of excellence carrying out world-class R&D and transfer of knowledge to industry. These will help in branding Singapore as a premier educational hub.
2. The next tier would be the existing universities; National University of Singapore [NUS], Nanyang Technological University [NTU] and Singapore Management University [SMU] – these would continue to be the bedrock of the university segment, carrying out a broad range of R&D activities, providing the core of Singapore manpower needs and offering education as public good.
3. The third tier would comprise additional private universities. These universities focus on teaching and applied research and add diversity to the university landscape. They would receive the bulk of the additional foreign student population. They

could be foreign or local in origin with their own campuses. It will be ensured that the private universities are at least of the same global ranking as NSU/NTU to minimize Singapore's brand name dilution.

11.4.3 China

The information that follows about higher education in China is drawn from the editorial page article in *The Hindu* [Feb. 17, 2006] entitled "Excellence in Education: The Chinese Way" written by Pallavi Aiyar of *The Hindu*, stationed in Beijing, China. Dr. Weiying Zhang, Assistant President of Beijing University, is reported to have said:

Our government realizes the connection between a nation's overall power and the quality of its higher education.

This realization has been translated into massive developmental efforts with the injection of large governmental funds in terms of billions of dollars and, "wooing top foreign-educated and overseas-born Chinese, building cutting-edge research centres, partnering with the world's best educational institutions and developing new programmes taught in the international *lingua franca* – English."

Among the many major initiatives ushered in by the Chinese Government, mention may be made of two:

- Under a central government programme started in 1998, called the 985 Project, 10 of China's leading universities were given special three-year grants in excess of \$125 million each for quality improvement. Beijing and Tsinghua Universities, the two top-ranked institutions, each received \$225 million. These grants were awarded in addition to special financial support provided by the 211 project, a separate programme

aimed at developing 100 quality universities for the 21st century.

- In 2004, the second phase of the 985 Project was launched and the number of universities under its purview was enlarged to 30. The Beijing Normal University has been sanctioned \$2.0 million per year for hosting international conferences and inviting foreign professors. It is stated that top foreign professors are paid around \$40,000-\$60,000 while the national salary of a full professor is only \$500 per month. As regards foreign students, Dr. Zhang observes:

For a world-class university, it is necessary to attract the best students and faculty internationally. Eventually we don't just want the best Chinese students, but the best from around the world.

In pursuance of this policy, Chinese universities are increasingly offering courses taught in English and in collaboration with internationally recognized partners. It is reported that the Beijing Normal University [BNU] has over 2000 foreign students enrolled in various courses and has academic agreements with 153 universities abroad including Princeton.

In September 2004, the University of Nottingham, Ningbo, China [UNNC] began its first intake of students. The School is a branch of the UK's Nottingham University and is China's joint venture university with an independent campus. It is reported, however, that there are over 700 foreign affiliated colleges in China.

Pallavi Aiyar further reports:

In 1978, only about 1.4 percent of the relevant age group in Chinese population was enrolled in higher education. Today

the figure is close to 20 percent. Currently, some 20 million students are studying in some form of higher educational institutions in China out of a total Chinese population of 1.3 billion.

The figure of 20 percent appears high since it was only 5.6 percent in 1996 [UNESCO, 2002], and when I referred the matter to the author, she replied:

The information was sourced from the Chinese Ministry of Education which was translated from Chinese for me by my assistant.

We have quoted Gnanam, earlier, in section 4 of this report, giving the enrolment ratio as 15.0 percent [2003]. He has not mentioned the source of the information in the paper. We may assume that the figure may lie between 15 and 20. Still, the achievement is very impressive.

The Chinese record is not only impressive, but it also holds the lesson that with 1.4 percent in 1978 and 5.6% in 1996, a nation could reach 20.0 percent in age group enrolment in higher education in 2005. What is possible for China must be possible for India, notwithstanding the difference in the system. The 20.0% that we have contemplated for 2020 must be realizable.

11.5 Universities in India

11.5.1 Categories

The categories of institutions that offer, and that may offer in future, tertiary education are generally as follows:

1. Central Government

i. Central Universities [conventional]

- ii. Open University [national]
- iii. Institutes of National Importance
- iv. Deemed Universities [central]

2. State Governments

- i. State Universities [conventional]
- ii. Open University [state]
- iii. Deemed Universities [state]

3. Private Providers

- i. Private Universities
- ii. Deemed Universities [private].

Deemed Universities have been discussed already in section 11.3.2. We have not said anything so far about open universities and distance education. A brief reference is necessary.

11.5.2 Distance Education

Peter Drucker, the management guru has made the following observation:

Thirty years from now, the big university campus will be relics. Universities won't survive... Higher education is in deep crisis... Today's buildings are hopelessly unsuited and totally unneeded [Dye, 1997].

This view is based on his belief or prediction that before long, higher education will take place, not within the classroom, nor within any confined educational campus, but off-campus and online, taking advantage of the succession of momentous revolutions that are coming up in the field of computer science and communication

technology and their convergence. This represents an extreme view which we may not share fully. The guru and shishya will continue to exist. There will be lessons, lectures, laboratories, exercises, and examinations. Nevertheless, we have to recognize the far reaching changes that distance education has already brought about in the world of education. The UK Open University is offering instruction in more than 100 countries [Levine]. Mention was made earlier about the consortia, GUA and Universitas 21 which are all corporations formed with the objective of exporting education online. The spectacle of promise that distance education unfolds for the future is immense. Distance education represents:

- i. transformation of instruction from craft to technology
- ii. increase in productivity in education
- iii. enhancement of flexibility
- iv. opportunities to the unreached and equity, and
- v. life long education.

Distance education has made significant progress in India. We have today one national open university and twelve state open universities. Indira Gandhi National Open University has study centres in 28 countries. In addition, over one hundred conventional universities have distance education directorates, and offer a large number of programmes. The profile of growth in the last 10 years is given in Table 12.

Table 12: Growth of Admission Strength in Distance Education		
Year	Annual Admission Strength [in lakhs]	
	Open Universities [OU]	Distance Education Institutions [DEI]
1995	2.22	10.00
2000	5.22	11.35
2005	9.00	21.00
<i>Source: Data obtained from the Distance Education Council [DEC], Indira Gandhi National Open University, New Delhi.</i>		

If we consider the open universities only the average rate of growth in the last 5 years has been 14.0 percent. If we take into account the distance education institutions [DEI] in general, consisting of open universities and distance education directorates in conventional universities, the rate of growth works out to an average of 17.0 percent. That certainly is an impressive record. The Indira Gandhi National Open University is the second largest open university in the whole world.

Judging from the past trend, we may conclude that all the conventional universities will eventually have a distance education component and will become dual universities. Distance education has a target group of its own, which is diverse in age, occupation, geographic distribution, social and economic disabilities, motivation and objective. It has a great role to play in the education system of India in the future. The subject needs a separate treatment on its own and it is not discussed in any detail in this work.

Policy Decisions

12.1 Funding

Since the submission of the report of the Education Commission [1966], an allocation of 6.0 percent of GNP for education has been recommended consistently. It has been stressed in the National Education Policy [1986] which observes as follows:

The National Policy on Education, 1968 had laid down that the investment on education be gradually increased to reach a level of 6 percent of the national income as early as possible. Since the actual level of investment has remained far short of that target, it is important that greater determination is shown now to find the funds for the programmes laid down in this policy. While the actual requirements will be computed from time to time on the basis of monitoring and review, the outlay on education will be stepped up to ensure that during the Eighth Five Year Plan onwards, it will uniformly exceed 6.0 percent of the national income [pp.49-50].

Although the need for enhanced allocation has been reiterated and promises made by every government thereafter, the investment has remained below 4.0 percent. Now is the time to redeem a long

delayed pledge and at least in the XI Plan, funds must somehow be found to touch 5.5 percent and by the XII Plan reach 6.0 percent without fail.

According to the *Human Development Report*, 1996, the world average of expenditure on higher education as percent of total expenditure for education was 21.0; for that of developing countries 18, and advanced countries 22.0 [1992]. The World Bank document, “Constructing Knowledge Societies: New Challenges for Tertiary Education” (2002) states:

Expenditures on tertiary education would generally represent between 15 and 20 percent of all expenditures of public education [p. XXIII].

We may, considering the dimensions of the task contemplated, allot around 22.5 percent in the ensuing plans. It is not too ambitious; our own allotment in the IV Plan was 25.0 percent and in the V Plan 22.0 percent. It was, however, low in the later plans. In addition we must reckon in terms of substantial inflow of funds from private sources for higher education.

12.2 Private Universities [Establishment and Regulation] Bill

The Government of India drafted in 1995 a Private Universities [Establishment and Regulation] Bill. This step was taken anticipating, rightly and quite imaginatively, a significant role for the private sector in establishing and maintaining university level institutions and in playing a leading role in higher education. The Bill was adopted in the Rajya Sabha, but there were reservations among the members of the Lok Sabha. It was referred to a Parliamentary Committee which had one or two sittings, but was not pursued later. It is unfortunate that a good beginning made was not carried to its fruition. There has been and there is among some a mindset against private providers in spite of the increasing

number of private institutions and the inevitability of private participation writ so large in the horizon of higher education.

Again in 1999, the Ministry of Human Resource Development set up a six member committee consisting of representatives from FICCI, NASSCOM, CII, Manipal Academy of Higher Education, BM Birla SBT Centre and Har-Anand Publications Pvt. Ltd. The committee recommended strongly, the enactment of Private Universities Bill and also amendments to the UGC Act.

The imperatives of private participation have been realized and conceded. Private colleges in all disciplines are pervasive in the country and are also effective. Most of the deemed universities now are in the private sector only. Between deemed private university and regular private university, the divide is not very significant and therefore, there exists no ground for any dither and delay in processing the Private Universities Bill. As already stated, the provisos in the Bill may be reexamined and amended, if necessary, and an Act may be brought about early. In the Bill, perhaps, a provision for establishing an institution as a deemed university as a prelude to establishing a full-fledged university may also be incorporated. While deemed university status to an existing institution may be given under the UGC Act, deemed university status to a new institution may be accorded, under the Private Universities Act, but only to an institution well on its way to qualify for recognition as a full-fledged university, i.e., somewhat akin to a period of probation.

The state universities are being established on the basis of legislations enacted during the first quarter of the 20th century. The structure of the university, the governance framework and the initial premises on which the universities were founded have long outlived their usefulness. Like the Grundgesetz [Basic Law] of Germany, the Government of India may bring about a bill,

prescribing the essential framework for a university in the state allowing enough scope for local initiative, leadership and provision to satisfy special needs, if any. The framework may ensure modernity and certain essential uniformity in the features of state universities. Provision may also be made in the bill for the state legislatures to grant deemed to be university status on the recommendation of the state council of higher education. We have contemplated a large number of deemed universities. The UGC and MHRD may not be able to handle all the proposals, if centralized.

Universities

13.1 Central Government Universities

The Government of India has to play a major role in establishing world-class universities. The Government of India must ensure that there are in the central sector, including the present central universities, institutes of national importance and deemed universities, at least 100 institutions spread over the length and breadth of the country. They must make provision for some of the world's leading academics to come and work for brief periods, deliver special lectures, advise on research and development of the university. They must contribute to branding the university system and India becoming a sought after educational hub in Asia. Each campus must be rich in cosmopolitan atmosphere and must have a fully national character with reasonable international population. We must feel tall enough to soar high and dream about Taxila, Kanchi and Nalanda in their 21st century incarnation.

13.2 State Government Universities

It must be remembered that the state governments are closer to the higher education activity which is mainly in the state institutions. The main responsibility for organizing and maintaining the bulk

of higher education facilities devolve on the shoulders of state governments only. The states must play a leading role in transferring higher education from college compounds to the campuses of the existing universities and those of new ones to be created. At least two world-class universities must be established by each state. The states must establish at least one full-fledged university for every 15.0 lakh population. The total number of universities and deemed universities established by the Central Government, state governments and private providers may average roughly one per five lakh of population. The number of autonomous colleges and junior colleges may be as necessitated by the demand. The composition suggested is meant as a general guideline, and may change depending on compulsions of circumstances.

13.3 Private Universities

The private participation will be in the form of universities, deemed universities, autonomous colleges and junior colleges, established by public trusts or societies.

It is settled that the beneficiaries must pay for the services. There will be provision for loans, scholarships and other forms of assistance. The student fees will depend upon the level of excellence of the courses provided. While unlimited and continuous variation in fees may not be permitted, a flat rate across all the institutions, irrespective of the richness of the academic facilities and ranking of the institution, may not also be appropriate. It will not also be conducive to the promotion of excellence. Dead uniformity is no virtue; discriminating patronage of the deserving is not a vice. What is needed is an honest deal. Some appropriate and acceptable formula must be arrived at and the fees prescribed must allow for reasonable surplus for removal of obsolescence as well as for modernization.

Self-financing concept in the Indian education scene is still new. It takes time for people to digest the transformation of higher education from public good to economic good. We have already indicated the approximate number of university level institutions in relation to population. The number suggested includes institutions established by the Government of India, state governments and private providers.

Foreign Universities

GATS recognizes four modes of service. They are, as we have already seen, as follows:

- i. Cross Border Supply
- ii. Consumption Abroad
- iii. Commercial Presence
- iv. Presence of Natural Persons.

All the four modes of service are already in vogue, whatever be the level of operation. Only commercial presence in the form of foreign universities having their independent campuses on our soil does not exist.

Writing on “Foreign Universities in India”, Sudhanshu Bhushan [2005], a senior fellow in NIEPA, India, gives the following information:

A new direction for the higher education system in India consists of market-driven transitional provision of education through the mobility of programs and educational institutions. At present this phenomenon is symbolic and market-driven, and as yet there is no policy guideline on

foreign universities. Given the strong demand for foreign degrees by Indian students, market-driven trends may dominate in the future. In the absence of government regulation of foreign universities, the new trend is posing problems with respect to quality.

An analysis of foreign institutions with respect to the country of origin, program types, and modes of operation reveals interesting facts. At present only the United States and the United Kingdom have shown interest in collaborating with Indian partners. Of the 131 institutions in the sample, 59 institutions partnered with UK universities and 66 institutions partnered with US universities. There are other potential countries such as Australia, New Zealand and Canada who are constantly watching the developments and the government stand on any regulation regarding foreign education providers.

An analysis of 50 institutions shows that the maximum number (30) of programs are offered under twinning arrangements. The programmatic collaborations (18) consist of joint-program and joint-degree provision by the institutions of the home and host countries . . . In this mode Indian private partners prefer to collaborate when they get a brand name of a foreign university to award the degree. There are only two franchised Institutions in India. There are no offshore campuses in India... Some study centres of UK universities were also found to be operational in India.

If we sign GATS, we may have to permit foreign universities also to set up campuses in India. It is known that a committee headed by Dr. CNR Rao has submitted a report on the subject to the MHRD; but the content of the report is not known. The

Government of India may regulate the entry of foreign providers in all its aspects on the basis of Rao Committee report. An important issue seems to be one of permitting foreign universities to repatriate profits if any. A mature decision is needed on the subject.

Commercial Presence in education is nothing new. Foreign university campuses exist in Malaysia, Singapore and presumably in China also. We may study the practices prevalent in these countries and their experience so far, consider the data collected and examine them against our background, and arrive at a decision. If there is provision in GATS to stipulate certain conditions to protect our legitimate interests, we may do so. But on the whole, we must not shrink from competing in the world market in the field of higher education.

Accreditation

We have, in the proposal for reconstruction, imported into the system substantial liberalization and decentralization. Freedom is a privilege and a virtue only in the hands of those who are prepared for it. Every step in the process of reconstruction requires massive training of the inheritors of this new order and incumbents in charge of operation.

Autonomy carries with it, inevitably, accountability. Every institution, whether it be a university or deemed university or an autonomous college, must develop a system of internal evaluation and be prepared for an external review by peers.

We have today a number of autonomous organizations invested with powers of accreditation. There are also professional bodies that grant approval after necessary assessment. It is imperative to review critically the accrediting institutions, now in existence, and devise a system broad enough to cover all the academic institutions periodically as per specification, and credible enough to command recognition for the academic awards conferred by the institutions accredited.

Mobility of students from one university to another is becoming increasingly important. The students face the problem of recognition of their degrees by other universities. In the past, it was the practice that a university examined the degree of another university in comparison with its own and accorded recognition. This laborious process was dispensed with and it has been agreed that a qualification recognised by the Association of Indian Universities [AIU] will be accepted by all the member universities. Even with this arrangement, problems do arise occasionally. We have today national accrediting agencies like the NAAC, NBA and DEC. An accredited programme or a qualification from an accredited university may find easy acceptance. These arrangements concern the issue of recognition within the country. But now we have international students who seek to study in a foreign country.

In order to facilitate movement of students from one country to another, accrediting agencies from different countries are coming together and signing an accord which is an agreement for mutual recognition of qualifications. The Washington Accord, which was established in 1989 and which now consists of nine countries, is an example for engineering education. The signatory countries are Australia, Canada, Republic of Ireland, Hong Kong, Japan, New Zealand, South Africa, United Kingdom and United States. Five other countries have provisional signatory status in The Washington Accord; they are Germany, Malaysia, Singapore, South Korea and Taiwan. There are also others such as Sydney Accord and Dublin Accord. Similar arrangements as these will increase in number and expand in membership in future. It must be our endeavor to become signatories of these accords to gain recognition for our programmes.

State Councils of Higher Education

The state governments are closer to the higher education activity which is mainly in the state institutions. They are planned, funded and maintained by the state governments. Unless there is an enlightened approach to, and efficient management of higher education in the states, no amount of effort on the part of the Central Government or centrally sponsored autonomous institutions discussed earlier, will be of any help.

At the state level, there is hardly any expert body and every issue is decided at the secretariat which, in most cases, has a cluster of only administrators who have all the powers, but no expertise in any professional field of knowledge. In order to guide and counsel the state governments in conformity with the policies of the Government of India or national policies, we need one or more autonomous bodies of experts in the states. These bodies will also help the development of academic leaders, a community that we do not have. We have at present outstanding academics – teachers and researchers of international standing – but no academic

leaders of repute in the states whom the government would approach and inevitably consult.

The National Educational Policy, 1986 has contemplated an apex body at the state level. It is envisaged as follows:

State level planning and coordination of higher education will be done through councils of higher education. The UGC and these councils will develop coordinative methods to keep a watch on standards [para. 5.30].

The state council of higher education as a coordinating body within the state and with the UGC is an extremely insightful suggestion. The UGC followed it up and prepared a Model Act. The states did not follow the Model Act. A few states set up the council according to their design, while some others did not set up the council. On the whole, a promising and perceptive institution did not receive the attention it deserved and is not effective even where it exists.

A high power committee must be appointed to submit a report within a year for making the state council more effective or for creating necessary mechanism consisting of competent professionals for planning, funding and guiding the state government in all matters related to higher education both general and professional. This body must work in close collaboration with the national autonomous institutions.

A Co-ordinating Body

There are at the Centre, a large number of autonomous bodies comprising experts as members to guide the course of higher education in different fields of knowledge. They are:

- i. University Grants Commission [UGC]
- ii. Medical Council of India [MCI]
- iii. Indian Council for Agricultural Research [ICAR]
- iv. National Council for Teacher Education [NCTE]
- v. Indian Council for Medical Research [ICMR]
- vi. Others.

We also have such accrediting bodies as NAAC, NBA and DEC. All these institutions mostly function in parallel and there is hardly any co-ordination. As already stated, higher education is fragmented and an integrated approach to creation and development of knowledge does not exist. If we are to achieve an objective that has not so far been achieved, we have to necessarily create an institution that has not so far been created.

The National Educational Policy 1986, realised this deficiency and has proposed the establishment of a co-ordinating body as can be seen from the following:

In the interest of greater co-ordination of facilities and developing inter-disciplinary research, a national body covering higher education in general, agricultural, medical, technical, legal and other professional fields will be set up [para 5.34].

It is an extremely important decision, but surprisingly, nothing has happened in this direction. Since senior members constituting the heads of national bodies are involved, it will be an important institution, though its function is one of ensuring co-ordination only. The national institutions mentioned earlier also come under three different ministries.

It is suggested that the institution may be designated as **National Board of Higher Education**, chaired by the Prime Minister of India. The three ministers of the ministries concerned may be Vice-Chairpersons. The heads of the autonomous bodies will be members. A few eminent representatives of the public, associated with higher education and representing various disciplines may be nominated by the PM. The Board may consist of not more than 15 members and meet twice a year. The Board may have a member secretary who must be one of the heads of member institutions and not from any of the ministries.

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Prof. V C Kulandai Swamy obtained M.Tech from IIT Kharagpur and Ph.D in Hydrology and Water Resources from the University of Illinois, USA. He has made outstanding contributions in the field of hydrology and education. He has been the Vice-Chancellor of three universities: member/chairman of academic bodies and expert committees in the fields of Hydrology and Education, both at the national and international levels. He has been the recipient of many awards and

distinctions – was conferred the **Sahitya Akademi** award (1988) and the national honours of **Padma Shri** (1992) and **Padma Bhushan** (2002).

In this book, **Prof. Kulandai Swamy** postulates that a system must undergo mini revolutions periodically; else it may have to face a major revolution. This is especially true in the case of the Indian Higher Education System.

The author pleads for restructuring the higher education system in India.

There is an urgent need to transfer higher education to university campuses and for simultaneously dispensing with the affiliating system, currently in practice. This will necessitate an increase in number of universities and university level institutions, ranging from 2000 to 2500. If we are to achieve a developed nation status, we need a threefold increase in enrolment in higher education. The government alone may not accomplish this; it has to be complemented by private providers. Higher education has become a marketable commodity and India must enter the competition. The author recommends the creation of a State Council of Higher Education in each state and an All India Board at the national level to facilitate planning and coordination. The National Educational Policy, 1986, has contemplated the creation of these two institutions.



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