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EIGHTH FIVE YEAR PLAN
REPORT OF THE WORKING GROUP
ON HIGHER EDUCATION

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GOVERNMENT OF INDIA
MINISTRY OF HUMAN RESOURCE DEVELOPMENT
DEPARTMENT OF EDUCATION
NEW DELHI

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TABLE OF CONTENTS

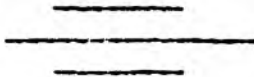
	<u>Page Nos.</u>
Foreward	(iv-xi)
I. INTRODUCTION	1-2
II. REVIEW OF PERFORMANCE IN THE SEVENTH PLAN	2-4
Consolidation and Expansion of existing Universities and Colleges	4-6
Redesigning of Courses	6-7
Improvements in the Management of Higher Education	7-10
Teachers - Pay scales, Recruitment and Training	10
Strengthening of Research	10-11
Open Universities and Educational Technology	11-12
Establishment of Rural Universities/ Institutes	12
Delinking Degrees from Jobs	12-13
An Assessment	13
III. STRATEGIES IN THE EIGHTH PLAN	14-17
IV. REFORMS IN UNDERGRADUATE PROGRAMMES	17-18
Reorganisation of Undergraduate Courses	18-19
Examination Reforms	20-21
Curriculum Development	21
Entrance/Standardisation Test	22-23
Teachers	23
Autonomous Colleges	23-24
Special Affiliating Universities	24-25
Science and Mathematics Education	25
Promotion of Excellence in Undergraduate Education	26

V.	EXPANSION OF UNDERGRADUATE EDUCATION	26-27
VI.	OPEN UNIVERSITY AND DISTANCE EDUCATION SYSTEM	29-30
	Expansion of Distance Education	30-31
	Network of Distance Education Institutions	31-32
VII.	POSTGRADUATE EDUCATION AND RESEARCH	34-5
	Special Assistance Programmes	35
	Strengthening of Infrastructure in Science and Technology	35-36
	Common Facilities and Services	38-4
	Superconductivity and Materials Service	40
	INFIBET	40-4
	Institutional Association	41-4
	Research in Humanities and Social Sciences	42-4
VIII.	CONSOLIDATION OF UNIVERSITIES AND COLLEGES	43
	State Universities	43-
	Colleges	45
	Central Universities	45-
	Student Services and Hostels	47
	Councils for Teachers	48
IX.	EDUCATION - COMMUNITY LINKAGES	48
	Extension Programmes and Community Development	48
	Integrated Development of the Human Personality	50
	Women's Education	51
	Population Education	53
	Special Programmes for Weaker Sections	53
X.	OTHER PROGRAMMES	54
	Rural Higher Education	5
	Educational Technology	:

	National Testing Services	57-58
	National and State Councils for Higher Education	58
	Accreditation and Assessment Council	58
XI.	RESOURCES AND FUNDING	59-60
	Review of Fee structure and Differential fees	60
	Loan Scholarships	60-61
	Sharing expenditure by development sectors	61
	Outlays in the Eighth Plan	61-63

APPENDICES

I.	List of Members of the Working Group on Higher Education	64-66
II.	Terms of Reference	67-68
III.	Projected Enrolments:	
	I Stagewise Enrolments	69
	II Projected Subjectwise Undergraduate Enrolment	70
III	Growth in the number of Colleges	71
IV	Enrolment in Distance Education Programmes	72
V.	Statewise Enrolment in Formal Institutions and Distance Education Programmes.	73



FOREWORD

The discussions relating to the New Educational Policy continued much after the formulation of the 7th Five Year Plan. Many of the initiatives suggested in the Education Policy 1986 have just begun to make a difference. Clearly it would be imprudent, within a couple of years, to talk of any major change or correction to what had been decided after extensive analysis and consultations with all concerned. Therefore, the report of this Working Group looks into many specifics and operationalities, keeping in mind the major thrusts suggested in the Education Policy of 1986.

Several things have already happened. Teachers have been given better salary scales so as to attract the best talent to the teaching profession. For the first time a code of ethics and procedure for assessment and evaluation of teachers have been evolved after extensive discussions with teachers' organisations. A system of Academic Staff Colleges for orientation and refresher courses for teachers has started working. It is soon planned to have a screening test for recruitment of lecturers into colleges and universities. The impact of all these steps will be seen only a few years from now.

A few of the States have not yet implemented properly the recommendations in regard to teachers' pay scales. It is necessary to do so because a great deal of needless dissatisfaction on the part of teachers will not help the

cause of higher education.

It has been a long-standing recommendation that colleges should function autonomously. New guidelines for autonomous colleges have been issued and nearly 100 colleges have been granted autonomy. Besides some reluctance on the part of the teachers' organisations the main obstruction to development of large number of autonomous colleges is the fact that many State Governments have not yet modified the Acts of the Universities to enable them to grant autonomy. It is to be appreciated that many of issues related to improvement of teaching methods, curriculum innovation and examination reforms will not be addressed properly unless teachers and managements in colleges have the rights and responsibilities in this regard. During the coming Plan we must make extensive efforts, nationally, to make a substantial move away from the archaic system of affiliated colleges. It does not exist in any developed country in the world.

The phrase "maintenance of standards" has to be understood in a wide perspective. Standards are not to be defined only in terms of syllabi, number of teaching days and attendance, but also in terms of the quality of the atmosphere which encourages commitment to learning, a freedom to innovate, an impatience with pseudo learning and intolerance of utter mediocrity. This cannot be done only through regulatory means. In fact, the

(vi)

important inputs have to be related to creation of conditions where initiative is transferred to where it belongs, to teachers and students and local bodies, with general norms being prescribed. Such norms are indicated by the University Grants Commission from time to time and are evolved through discussions with academics all over the country.

The overall state of education is jeopardised seriously by opening of institutions without due preparation and provision of infrastructure and teachers. The existing powers of U.G.C. do not enable it to stop the setting up of a college or, for that matter, a university. It has been properly suggested in the Education Policy 1986 that State Councils of Higher Education should be set up in order to coordinate the growth of higher education in various States in close collaboration with U.G.C. and keeping in mind the guidelines framed by the U.G.C. Though the process has started, it is going rather slowly and must be accelerated.

In recent years, the programme of Special Assistance, including COSIST and Condensed Matter Science (Superconductivity) have made a qualitative difference in the capabilities and output of the university system. The total inputs have been comparatively small as compared to the size of the university system but the results have demonstrated that the system contains elements of capability which have been neglected for a long period of time.

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As the documents of the Education Policy 1986 emphasise, a time has come to move the universities centre-stage. The total amount of research support given to universities and colleges in all of last 40 years is a tiny fraction of the total amount spent by the country on scientific research in one single year. Indeed we seem to spend less on whole of higher education, including research done in the universities, than we do on research and development in science & technology. While it is true that higher education is a part of the total education system and its development must bear some relation to the overall spending on education, we must recognise that inputs into higher education have to be decided in terms of an absolute comparison between what we spend and what other industrial nations of the world spend. The work done in our higher educational institutions, should produce knowledge and human resource of quality and quantity as will allow us to run with the world in these times of fast change and intense competition. Therefore, the allocation for higher education has to be seen as an essential component of our overall economic plan and deserves an order of magnitude enhancement.

A beginning has been made to set up cooperative institutions within the higher education system. This includes a number of Inter-University Centres set up, sometimes, in cooperation with national laboratories, where teachers and students from the universities can work, and inter-act, with each other and with facilities not normally available to any one university. One should proceed from this to set up national research centres

within the university system. Exposure to relevant research while learning is the best way to ensure that learning would be exciting and the curricula will change naturally while, on the other hand, the world of knowledge, creation and research will gain through the application of bright young minds. It is through these measures that we can truly "maintain standards" and create a new universe for our colleges and universities. What has been barely initiated needs a further push.

The national laboratories and research institutes must get into a closer partnership with the university system. For this purpose and for improving interaction between the universities themselves, an association programme is being formulated and will be pursued in the coming years.

It has become quite fashionable to talk about the wrongs of our university system. Yes, there are serious lacunae in the system, but in the dust and din and general noise which surrounds the world of universities and colleges, we do not see the achievements, nor some brilliant jewels. It is well known that a large fraction of the Fellows of National Academies come from the university system and a majority of prestigious national awards are also taken by academics and scientists from the university system. There is no country in the world which is satisfied with its educational system, nor should be we with ours. It is interesting that practically the same language is used to describe the so called "decay" of the higher education system in most advanced countries as in India. Lot of turmoil in our

colleges and universities reflects the turmoil in the society at large. Yes, it is desirable that arguments within the academic environment should exhibit a greater balance, objectivity and incisiveness than in streets and bazars of our cities or rallies at the Boat Club. I think there is a lot of purposeful soul searching and trying and we should learn to recognise this both from within the system and outside. The greatest enemy is cynicism and we must do everything possible to fight it, while being mindful of our inadequacies.

Some of the elements which have not received sufficient attention, largely because of the inordinate growth in colleges and universities are related to provision of student-service and amenities like sitting places for teachers. Some attention has been paid to these in the proposals drawn up by the Working Group.

The Group has also concerned itself with the need to put special focus on quality of undergraduate education. It has been suggested that there should be at least a few colleges of excellence in each State. A specific provision for this has been made. Another proposal, not reflected in financial terms, is encouragement of the starting of 5-year integrated courses in science in a number of universities so that the students at the undergraduate level have an opportunity to inter-act with the best of minds.

An aspect of the university system which has grown substantially during the last few years is related to extension programmes and linkages with society. The system is intimately

involved in programmes related to the **National Literacy Mission**, Population Education, etc. Several thousand adult education centres are being operated. It is through such activities that at least some students develop a deeper appreciation of the social reality of the country, while contributing something valuable at the grass root level.

The Country-wide Classroom programme of the U.G.C. has proved to be very successful. It addresses not only the undergraduate students, but also professionals from various disciplines and educated public all over the country. It can be seen both as an educational improvement programme for students as also mass continuing education for academics and professionals spread all over the country. Since the telecast material is produced through cooperative efforts of the university system, it is also in the nature of action-learning. It is truly a unique extension programme and needs to be supported fully.

At the initiative of the University Grants Commission, but with full cooperation of a number of agencies, a proposal has been worked out to set-up a National Information and Library Network, inter-connecting all major libraries in the country, in universities and research institutions. Such a Network would also provide opportunities for working together to large number of academics, to the advantage of everyone concerned. This is one example which shows clearly that in areas of higher education and research isolation of institutions under different agencies is counter-productive and will harm all the institutions.

This proposal seeks to address the extremely difficult problem of adequate provision of books and journals to the higher education research system. The project has been worked out in great detail and must be started as soon as possible.

I have not covered all the concerns and proposals made by the Working Group. For example, the important recommendation of the Working Group about the role to be played by the open universities and distance education system should not be overlooked.

In the end I would reiterate, while forwarding this report, that in the haste and bustle of Plan formulation and in trying to make ends meet, we should not forget the very pivotal role higher education has come to play in a world where creation of new goods and services, ideas and plans, economic policies and management structures is essential to our well-being and survival. Our higher education system should have the same or similar working atmosphere and facilities which rest of the developed world have. Yes, I talk of the developed world because there would be the competitors and any country which cannot compete at least in some of the areas will be doomed to a state of permanent cultural and economic dependence. We should spend a lot of our resources on research and development but unless we simultaneously enhance the quality of our higher education system including its research and development capabilities we will not get very far.

I thank all my colleagues and members of this Working Group for their contributions, analysis and enthusiasm. Special thanks are due to the Convener of the Group, Shri J.D. Gupta, and those who worked in various sub-groups.

REPORT OF THE WORKING GROUP ON HIGHER EDUCATION FOR THE EIGHTH FIVE YEAR PLAN 1990-95

I. INTRODUCTION

1.1 The Planning Commission had constituted several Working Groups in different sectors of development for the formulation of the Eighth Five Year Plan (1990-95). The Working Group on Higher Education was constituted in August, 1988 for formulating proposals for the Eighth Five Year Plan indicating also the priorities, policies and the financial cost. The composition of the Working Group and its terms of reference are given in the Appendix. Shri C.R. Pillai, Director(Planning), Indira Gandhi National Open University was co-opted as a member of the Working Group.

1.2 The Working Group met on 19th September, 1988 and 17th October, 1988. At these meetings the Working Group had reviewed the programmes and activities initiated in the Seventh Plan, the thrust are as identified in the National Policy on Education - 1986 and its Programme of Action, and discussed the general directions for development in the Eighth Five Year Plan. Subsequently, small sub-groups were constituted in the following areas of Higher Education to discuss and recommend specific proposals for incorporation in the Eighth Plan:

1. University Development and Central Universities
2. College Development
3. Science & Technology Education and Research
4. Common Services and Facilities

5. Extension and Community Development
6. Open Universities and Distance Education
7. Research in Social Sciences and Humanities.

1.3 These Sub-Groups met during November-December, 1988. Based on the deliberations of these sub-groups, and the general directions given by the Working Group at its first two meetings, a draft report was prepared which was considered at a meeting of the Working Group on March 4, 1989. At this meeting the Working Group authorised the Chairman to finalise the report after incorporating the points made by the members on the Draft Report.

II. REVIEW OF PERFORMANCE IN THE SEVENTH PLAN

2.1 A major effort in the Seventh Plan was to focus attention on programmes to improve the quality and relevance of under graduate courses; consolidation of the existing universities and colleges; launching of distance/open learning programmes on a large scale; qualitative improvements in post graduate education and research; and development of programmes for training/orientation of teachers in higher education.

2.2 The Working Group for the Seventh Plan had recommended an outlay of Rs.1724 crores for higher education. However, the Seventh Plan when finalised provided only an outlay of Rs.1013 cr Rs.420 crores in the Central Sector and Rs.593 crores in the State Sector. The allocation for the State sector was not

fully reflected in the State Plans; an analysis of the State Plan outlays indicates a provision of only Rs.462.80 crores. In other words, the Seventh Plan began with a total allocation of Rs.882.80 crores for higher education in the Central and State sectors which was just about 50% of the outlay recommended by the Working Group.

2.3 In 1985, just before the commencement of the Seventh Plan, the Government announced a comprehensive review of the National Policy on Education. Following this review, a new National Policy was finalised in May, 1986. It was followed by a detailed exercise to prepare a comprehensive programme of action for implementing the directions given by the National Policy. Several Task Forces were constituted to formulate programmes and activities to be implemented at different levels by various sectors of education. Based on their recommendations, a Programme of Action was finalised and presented to Parliament in August, 1986.

2.4 The NPE and the POA provided the overall directions for the growth and development of the entire education system. In the higher education sector, the thrust areas identified by the NPE/POA were:

- (i) Consolidation and expansion of existing universities and colleges.
- (ii) Redesigning of courses.
- (iii) Improvements in the management of higher education.

- (iv) Teachers, their pay scales, recruitment and training.
- (v) Strengthening of research.
- (vi) Open Universities and educational technology.
- (vii) Establishment of rural universities/institutes.
- (viii) Delinking degrees from jobs.

2.5 The major programmes in the Seventh Plan were formulated around these thrust areas. A brief review of the progress of implementation of these measures is given in the following paragraphs.

Consolidation and expansion of existing
universities and colleges

2.6 In 1984-85, there were 125 universities and 5590 colleges which had a total enrolment of 34.04 lakhs students. During the first four years of the Seventh Plan, 20 new universities and over 5000 colleges were established. The total enrolment went up to about 40 lakhs. The annual rate of growth was not static; it showed a fluctuating trend. The average rate of growth in the first three years of the Plan was over 4%. The number of institutions deemed to be universities also went up. Although all of them were already functioning as institutions of higher education, their new status enabled them to be counted as independent members of the University Community.

2.7 The U.J.C. has been supporting about 100 universitie

in the Seventh Plan for their development. Only 18 universities remained to be declared fit by the U.G.C. for grants as on 31-12-1988. (Agricultural Universities are not supported by the U.G.C.). According to an analysis of the Plan expenditure during the first three years, nearly 50% of the total plan grants have gone to the State universities.

2.8 The total number of colleges in 1988 was 5040. Of these, only about 3600 were included in the list of colleges recognised by the U.G.C. under Section 2(f) of the UGC Act. Of these recognised colleges, about 2675 received basic grants averaging Rs.1.10 lakhs for purchase of books, journals and equipment in the first three years. 1650 colleges received development support for under graduate education. The average assistance to a college was about Rs.4 lakhs only. Another 200 colleges received assistance for development of post graduate courses or for the strengthening programmes of law, education, etc.

2.9 That a substantial number of colleges (over 2000) remained outside UGC support has been a matter of concern. Many of them have not even been granted permanent affiliation by their universities. They are non-viable.

2.10 The total grants paid to colleges during the first three years of the Seventh Plan was about 18% of the total plan expenditure. The assistance provided to eligible

colleges was inadequate. A total grant of Rs.5 lakhs per college during a five-year period (at current prices) cannot make any impact.

2.11 For the first time, detailed guidelines for granting affiliation to new colleges were prepared. These guidelines set out the terms and conditions for granting affiliation; they include the extent of physical facilities that must be provided by the managements of colleges. The Central Advisory Board of Education has endorsed these guidelines and urged the State Governments to ensure that they are adhered to.

Re-designing of courses

2.12 Although the programme of restructuring under graduate courses was initiated by the U.G.C. in 1978, the progress of its implementation was slow. At the beginning of the Seventh Plan, only about 40 colleges were implementing it. With the emphasis on redesigning courses given by the NPE/POA, more universities and colleges have started implementing this programme, though they do not strictly follow the pattern or structure given in the guidelines of the UGC. The restructured courses in many universities and colleges do not necessarily consist of the suggested components of foundation courses, core courses and application-oriented components. What most universities and colleges have done is to introduce a new course in place of one of the existing subjects in the traditional

combinations.

2.13 Although this was a modest but significant beginning, there are reports of several impediments which inhibit the enthusiasm of many colleges in restructuring their programmes. A major difficulty is that students passing out these diversified courses find difficulty in getting admission to post graduate courses as most universities continue to insist on the traditional subject combinations for the purpose of admission. Unless the universities review their admission policies and introduce more rational methods like entrance tests, etc., a major effort at academic reform like re-designing of courses is likely to collapse.

2.14 To support the programme of re-designing courses, the U.G.C. had, at the beginning of the Seventh Plan, sanctioned the establishment of 24 Curriculum Development Centres, 7 in Sciences and 17 in Humanities and Social Sciences. These Centres would continuously review the curriculum, prepare the content of the newly designed courses including relevant teaching-learning materials for them. 12 of these Centres have submitted their reports on the courses in the relevant disciplines which the Commission has circulated to the universities for consideration.

Improvements in the management of higher education

2.15 The U.G.C. had notified regulations in 1985 which prescribe certain minimum standards of instruction for grant of the first degree by the universities. These regulations

prescribe a minimum of 12 years' schooling for admission to the first degree courses, a duration of three years for the award of the first degree (first degree obtained after two years will not entitle a student to get admission to post graduate courses unless he completes a one-year bridge course); a minimum of 180 teaching days in a year; a total workload of 40 hours per week for teachers (actual teaching work not to exceed 3 hours a day); and certain essential examination reforms.

2.16 A comprehensive review of the management patterns of universities has been initiated. An Expert Group is engaged in studying the matter in depth. A few seminars have been organised. Based on the conclusions which emerged from these deliberations, a draft report is under preparation. It is envisaged that the recommendations of this Group when finalised would form the basis for new university legislation.

As proposed in the NPE/POA, the programme of autonomous colleges has been given a new fillip. The guidelines and pattern of assistance for autonomous colleges have been revised. Till December, 1988, 92 colleges have become autonomous. Efforts are being made to promote the acceptability of the scheme of autonomous colleges rather than forcing the pace of its implementation.

2.17 Guidelines have been framed for the establishment of State Councils of Higher Education. The Government of Andhra

Governments are examining the matter. These Councils when set-up, would provide an effective machinery for planning and co-ordination of higher education within each State, and would also be effectively assisting the U.G.C. in fulfilling its responsibilities.

2.18 A concept paper on the establishment of a machinery for the accreditation and assessment of institutions of higher education has been prepared. This has been widely circulated for eliciting opinion. Regional and national seminars are also planned to discuss this concept. The objective is to develop mechanisms to promote the practice of performance appraisal among institutions of higher education for improving their quality.

2.19 The proposal to establish an apex body for co-ordination of higher education at the national level is being pursued. Since a number of agencies and bodies are already in existence, the establishment of another agency requires careful delineation of areas of co-ordination and the nature of functions to be performed.

2.20 Universities and colleges are being supported to develop computer facilities. All the universities have been provided with computers. About 400 colleges have also been offered this facility. They have been advised that these facilities should be utilised for maintenance of students' records,

accounts, finance and other information necessary for management.

Teachers, their pay scales, recruitment and training

2.21 The pay scales of teachers were revised and improved from 11-1-1986. The scheme is a package of measures for improving the quality and standards of education. It includes, among others, a new design for career advancement, linked with professional improvement through continuing education programmes as well as regular and systematic performance appraisal of teachers. A majority of the State Governments have accepted and implemented the scheme by 31st December, 1988. Others are in the process of doing so.

2.22 4:8 Academic Staff Colleges have been set up in selected universities to organise orientation programmes for newly recruited Lecturers. Each of them will provide training to about 400 teachers per annum. A programme for refresher course for serving teachers is being launched from 1989-90. A design for a data-based system of regular performance appraisal of teachers has been evolved. It is expected to become operational from the academic year 1988-89. Formulation of a code of professional ethics for teachers is at the final stages.

Strengthening of Research

2.23 The Special Assistance Programmes for strengthening postgraduate education and research have been expanded in the

Seventh Plan. The number of Centres of Advanced Study has increased to 41; that of Departments of Special Assistance to 140; and of Departmental Research Support to 69. The programme for strengthening infrastructure in science and technology education and research initiated at the end of the Sixth Plan was expanded. The total number of Departments receiving support under this programme in 1988 is 93.

2.24 The programme for establishment of common facilities to support university research was further expanded. Three computer based Information Centres are functioning in existing universities in the areas of science, humanities, and social sciences. A Nuclear Science Centre was established at the J.N.U. campus as an autonomous body for providing research facilities to University Scientists; an Inter-University Centre in Astrophysics and Astronomy has been set up as an autonomous body at Pune.

Open Universities and educational technology

2.25 The Indira Gandhi National Open University was established in 1985 to introduce and promote open university and distance education system in the country. The IGNOU has also been charged with the responsibility for co-ordinating the Open University system and for determination and maintenance of its standards. (The first Open University was established in Andhra Pradesh in 1982). Two more Open Universities, one in Bihar and another in Rajasthan were established in 1987. The IGNOU has launched its academic programmes from 1987. The delivery system consists of multimedia packages of self-instructional material and a country-wide network of regional and study

centres. By the end of 1988, it had an enrolment of 32,000 students. The programmes of the University and the self-instructional material developed by it have been well received. It has also set up a Coordinating Council with other Open Universities as its members with a view to developing an effective network of Open Universities in which each Member University can draw upon the programmes and courses of the other Universities.

2.26 The T.V. programmes in higher education supported by the Government have continued to play an important role in supplementing the educational programmes offered by the universities and colleges. It has provided valuable experience in the development and application of educational technology. 4 Educational Media Research Centres and 7 Audio Visual Research Centres have been established to support this programme, especially in developing capabilities in software production and to train manpower. A substantial part of the programmes now telecast are produced at these centres.

Establishment of Rural Universities/Institutes.

2.27 A detailed project report has been prepared for developing programmes to promote rural higher education. It visualises the setting up of a Central Council for Rural Higher Education as an apex body to formulate and implement programmes of education relevant to the rural areas. The strategy proposed is to support selected existing institutions and those run by voluntary agencies in running such programmes. The programme has not been sanctioned till December, 1988.

Delinking Degrees from Jobs.

2.28 As envisaged in the NPE, the establishment of a

National Testing Service has been sanctioned. The NTS is likely to become operational in early 1989. The main objectives of the NTS are to conduct tests on a voluntary basis and certify the competence and proficiency of individuals for specific jobs and services so that these certificates can become the eligibility requirements for future employment in place of general University degrees.

An Assessment

2.29 Hopefully, the Seventh Plan comes to a close on a note of optimism. There is now a greater emphasis on academic reforms; there is enthusiasm for new initiatives; there is an awareness that the universities and colleges can and should play a far more effective role in national development; there is a realisation that the overall efficiency of the system should improve vastly; and there are hopeful signs of breaking away from the rigidities of traditions.

2.30 The NPE/POA have given a new direction to the development of higher education. The system and its functioning have been exposed to critical scrutiny. Though there is resistance to major changes in structures, especially of academic programmes and their management, there is also a greater willingness now to innovate and experiment. What is more important, there is now a greater acceptance of the need for integration of the various sub-systems that constitute the total higher education system. On the other hand, the total resources available to higher education continue to fall far short of the requirements of the massive system that it is. There is mounting social pressure on the system which it cannot meet without compromising quality and efficiency. In the aggregate, the picture is one of light and shade, of hope and concern.

III. STRATEGIES IN THE EIGHTH PLAN

3.1 During the period 1970 to 1985, the aggregate enrolment in high education increased at an average rate of 4.4% per annum. Throughout this period, the composition of the total enrolment remained stable; under graduate enrolment accounted for 87.5%, post graduate enrolment 1%, research 1%, and other programmes 1.5%. In absolute terms, the total enrolment in 1970 was 19.53 lakhs. It increased to 35.70 lakhs in 1985; it will reach a level of 44.26 lakhs in 1990 and 54.88 lakhs in 1995 assuming that the average rate of growth will continue to be 4.4%. The corresponding figures for under graduate enrolment are 17.46 lakhs in 1970 which increased to 31.42 lakhs in 1985 and will increase to 38.73 lakhs in 1990 and 48.02 lakhs in 1995. This would imply that the total additional enrolment during the eighth plan would be of the order of 10 lakhs, of which nearly 9 lakhs would be in the under graduate programme.

3.2 There have been no significant attempts in the past to provide facilities in a planned manner for the ever increasing needs of expansion. New colleges were set up very often in response to local pressures with any preparation, and nearly always without ensuring the minimum facilities required. These new colleges managed to survive for a fairly long time before some responsibility was accepted by the State Governments for their maintenance. It took them several more years to get permanent affiliation from their universities, and thereafter recognition from UGC. The consequences have been disastrous. The system continues to expand; the resources get thinly distributed; the pressure mounts; the standards decline; and eventually, the system collapses.

3.3 There is no escape but to break away from this tradition.

It requires, firstly, that a machinery is set up to undertake on an effective and sustained basis the function of planning in higher education. Detailed and careful plans have to be prepared in every state to consolidate the existing institutions, rationalise the overall facilities, strengthen the existing non-viable colleges, and to formulate plans for establishment of new institutions on the basis of established needs and availability of resources. Secondly, the general first degree courses currently offered by the majority of colleges are unrelated to the requirements of the job market. These courses will have to be restructured and made more relevant to the needs of the employment market as well as national development.

3.4 The provision of additional facilities to those who become eligible to seek higher education in the next five years cannot wait till these measures are taken. There is no way to deny the additional 1 million students their right to pursue higher education. At the existing enrolment ratio, it will be necessary to set up at least another 1200 colleges to absorb the additional enrolment in the eighth plan. This is simply a task beyond our means; in any case, in the context of the utility of the programmes presently offered by our colleges, establishment of more conventional colleges should receive only a low priority.

3.5 Against the background explained above, the strategies for the development of higher education in the eighth plan will necessarily have to take into account the following imperatives:

- i) Courses and programmes offered by the universities and colleges will have to be restructured, modernised, and made more relevant to the needs of national development. This implies that our flexibility is diminished in the undergraduate programme in terms of content and

combinations of subjects; the contents of courses is made application/vocation oriented; and there is continuous renewal of the contents, teaching-learning processes, examination systems, etc.

ii) Programmes of distance education have to be expanded on a massive scale to absorb at least 50% of the additional enrolment in the eighth plan. In other words, the distance education system should account for a total enrolment of about 1 million by 1995, half of which will be the age-specific admission seekers to universities and colleges.

iii) The admission capacity of the existing colleges is stepped up considerably. Nearly 30% of the existing colleges, which are non-viable, if adequately strengthened can absorb a substantial proportion of the additional enrolment. Detailed plans should be prepared for this purpose within each State. New colleges should be established only where it is inescapable to do so, and if they are integrated with the total plan for development.

iv) The system of management of higher education has to be more dynamic. Planning machineries at the State level should be set up. There should be greater decentralisation within institutions. Efficiency in the utilisation of the existing resources should be stepped up at all levels.

- v) Pursuit of excellence should receive greater attention. At the same time, it should be ensured that ~~the gap~~ between centres of excellence and the rest of the system is narrowed. This will require greater resources and a determined effort towards consolidation of the existing institutions and their infrastructure.
- vi) Innovations and experiments must become a way of life. It should be the responsibility of our universities and colleges to promote innovations. To enable them to do so, they must themselves break with the rigidities of their existing structures and processes.

6 It is on the basis of these broad considerations and approaches that the programmes and activities to be implemented in the eighth plan have been proposed by the Working Group.

IV. REFORMS IN UNDER GRADUATE PROGRAMMES.

1 At the end of the Seventh Plan, the estimated total enrolment in all under graduate programmes is 38.73 lakhs. By 1995, this enrolment will rise to about 48 lakhs. Of this, Arts, Science and Commerce courses would account for about 31 lakhs in 1990 and 38.40 lakhs in 1995. In other words, the Eighth Plan will have to anticipate an expansion in enrolment of about 1 million at the under graduate level, of which 80% will be in the conventional Arts, Science and Commerce courses.

2 In the context of this quantitative expansion, both the quality and relevance of the conventional first degree courses assume great importance. All through the last four decades, enrolment in postgraduate

programmes remained stable, accounting for about 10% of the total enrolment. It follows that of the total enrolment in undergraduate programmes, only 10 to 12% would continue their higher education beyond the first degree level. For the vast majority of undergraduate students (upto 90%), the first degree is a terminal point of their educational career. Most of them leave the universities and colleges with or without a Bachelor's degree. None of these is adequately prepared for any specific job or occupation. They compete for such job opportunities as come their way. It is in this context that the structure, content and relevance of our undergraduate programmes require to be critically examined.

Reorganisation of Undergraduate courses

4.3 The programme of restructuring undergraduate courses framed by the UGC provides a basic framework for the reorganisation of undergraduate courses. Some efforts have been made by certain universities to redesign their undergraduate courses; but the programme has still to make any major impact. The overall resource support to the programme has been inadequate; colleges which have shown interest were not able to take up these programmes in a meaningful manner. The fact that there is greater willingness to redesign courses is a positive development.

4.4 In the context of the emphasis placed in the National Policy on Education and its Programme of Action on redesigning courses, and the positive atmosphere which is emerging in this area, it is necessary that the programme of restructuring courses is pursued with greater vigour in the Eighth Plan. The objectives of this effort should be to bring about a total transformation of the conventional first degree courses through redesigning of programmes to provide for a greater vocational content

with emphasis on proper work culture and attitudes; decentralisation of the entire system to encourage diversification, implementation of examination reforms, and provision of flexibility and relevance to courses and programmes and linking them with the development needs of the community.

4.5 In operational terms, these measures would involve:

- a) Introduction of greater flexibility in the structure of first degree programmes to permit greater variations in the combinations of courses;
- b) Promotion of modular structure and award of credits for every completed unit of a course and the facility of accumulation of credits for the award of degrees/diplomas, etc;
- c) Preparation of curriculum and learning material for different units of the courses;
- d) Introduction of vocational courses in diverse fields with a view to cover practically every student by an appropriate vocational education programme in the colleges.
- e) Provision of curricular credit for activities like sports and physical education, community-development-oriented work like NSS, Adult Education, and other extension activities, etc.
- f) A review of the development support from the UGC for re-organisation of courses on the basis of the number of students covered; and
- g) Establishment of closer linkages by every college with the community, including industry, institutions, social development activities, etc. to enable students to pursue their courses while also participating in the developmental processes.

Examination Reforms

4.6 The NPE/FOA strongly advocate comprehensive and meaningful reforms in the examination system. The unitary universities, and those offering professional courses have been able to develop satisfactory evaluation systems and procedures which inspire confidence. The performance of the mass education system, especially the affiliating colleges offering general education programmes, is however none too inspiring. Most of the affiliating universities seem to be heavily overburdened with the responsibility for colleges; the involvement of colleges in the management of universities often distracts efforts to introduce meaningful reforms in the structure of their courses or the system of their examinations. It needless to emphasise that no worthwhile reforms in the examination system is possible unless the courses are restructured; and no worthwhile restructuring is possible unless the system of examination is reoriented.

4.7 Implementation of examination reforms involves the assumption of a greater role and responsibility by teachers. Continuous institutional evaluation should become an integral part of the teaching-learning process. There is no way to do this except through large scale decentralisation. Restructuring of undergraduate courses in the form of units or modules, with provision for testing in each such unit/module, would enable the replacement of the end-course single examination with a large number of minor examinations spread throughout the course. In order to encourage evolution of useful reforms, the UGC should consider support to selected universities to undertake continuous research on educational testing, test design methods of integration of evaluation with the teaching-learning processes, etc. A few such centres, working in conjunction with the curriculum development centres could provide the necessary

professional and methodological support to the universities. We recommend that the UGC take up this project in the eighth plan.

Curriculum development

4.8 The UGC initiated a programme of establishment of Curriculum Development Centres in major disciplines in the Seventh Plan. Many of these centres have prepared their reports which are being circulated to universities for their guidance. However, the experience of the past is that the universities do not generally show much enthusiasm in the implementation of such guidelines. It is therefore necessary that all development support from the UGC in the eighth plan is linked with the efforts made by the Universities in implementing the guidelines in major thrust areas identified in the NPE/POMA. In order that the efforts at restructuring courses are continued in the eighth plan with greater vigour, we recommend that the programme of curriculum development should be further strengthened and continued. We suggest that the UGC should take the initiative in organising seminars at various levels to which teachers from universities and colleges alongwith the conveners of the curriculum development centres are invited for exchange of ideas and promotion of awareness on curricular improvements. It is necessary that these curriculum development centres are also assigned the responsibility of developing curriculum as well as complete learning materials, both in textual as well as audio-visual forms. We recommend that in the Eighth Plan, efforts should be made to develop the entire curriculum and learning materials for about 100 courses which can be introduced by various colleges. These curriculum development centres should preferably be established in the universities.

Entrance/Standardisation Test

4.9 During the course of our deliberations, it was forcefully brought out that the cause of reorganisation of undergraduate education and greater diversification of their content, was not served by the universities through their insistence on rigid fulfilment of the traditional admission criteria. There was therefore a marked reluctance on the part of certain well-established colleges to initiate meaningful reorganisation of undergraduate courses. A view was also expressed that unless steps were taken to remove all apprehensions about admission to postgraduate courses, neither the programme of autonomous colleges, nor of reorganisation of undergraduate education, was likely to make any satisfactory progress.

4.10 Diversification of the content of undergraduate programmes is an essential reform to improve the relevance of the first degree course. It is equally important that steps are taken to fulfil the objectives set out in the NPE to encourage mobility of students among universities. For this purpose also, it would be desirable to provide for admission of at least 25% of the students from outside the university to all postgraduate programmes. Postgraduate programmes in highly specialised fields specially supported by the UGC should draw students from all over the country.

4.11 Considering the scale of diversification proposed at the undergraduate level, and to ensure equalisation of educational opportunities and encouragement to mobility, admission to all postgraduate courses should be made on the basis of entrance tests. In the case of programmes for which admission is to be made on All-India basis, it would be preferable for the UGC to designate a university

to conduct the test . In other cases, a designated university in each state may conduct the entrance test for all postgraduate programmes within that State. Those who qualify in these tests should be eligible for admission to the concerned programmes. Over a period of time, it should be possible to reduce the number of admission tests through a system of mutual recognition of tests by the universities.

Teachers

4.12 The scheme of revision of pay scales of university and college teachers incorporates provisions for their continuing education as well as performance appraisal. The programme of Academic Staff Colleges initiated by the UGC should be strengthened. Refresher Courses/Summer Institutes for in-service teachers should be organised on a large scale through these Staff Colleges and other Universities. Organisation of continuing education programme through distance education institutions like the IGNOU should be explored. The existing teacher fellowship programmes may be reviewed. There have been suggestions that instead of a small number of Ph.D programmes for serving college teachers, shorter M.Phil. programmes may be introduced on a large scale. The content of these M.Phil programmes should be reviewed with a view to incorporate in them provisions for upgrading the subject content, as well as teaching and research methodologies.

Autonomous Colleges.

4.13 The kind of large scale reorganisation of the system of undergraduate education is not likely to succeed unless academic management is comprehensively decentralised. The scheme of autonomous colleges is a major step in this direction. The programme of

restructuring courses, introduction of vocational programmes and examination reforms cannot succeed unless there is provision for teachers to participate effectively in these areas, and the unit of operations is brought to a manageable size. For this purpose, the programme of autonomous colleges will have to be pursued vigorously in the Eighth Plan. The scheme of autonomous colleges has to be perceived and promoted as a necessary instrument for speeding up the process of academic reforms; the misconception about the scheme as a tool for delinking colleges from universities, or for introducing degrees of distinction between colleges should be removed. The ultimate objective of this programme will not be achieved unless the scheme is accepted by teachers, students, and the managements, and there is a greater willingness on their part to accept the responsibility and accountability that go with the scheme of autonomy.

Special Affiliating Universities.

4.14 The National Policy on Education visualises the eventual replacement of the existing system of affiliation of colleges. This concern is understandable; the affiliated colleges, in most cases, place a heavy burden on the universities. In fact, most managements of the affiliating universities have a preponderance of the representatives of colleges on their decision-making bodies. This presence is widely perceived to be a major roadblock to all meaningful reforms, be they in redesigning courses, or in examination reforms. The University Grants Commission had proposed that it would be worthwhile to move towards the development of a college system in which there would be autonomous colleges and special affiliating universities whose

function would be only to develop the colleges under their charge by providing common facilities and services. The sole responsibility of these special universities would be to work towards the improvement of education in the colleges under their charge. They will have programmes such as curriculum development, refresher and orientation courses, and infrastructure like good library, major computer centre, etc. which could be used by the affiliated colleges. They would also be engaged in the development of reliable examination and evaluation procedures for the students in the colleges. These universities will not have any direct teaching programmes. This concept of a special affiliating university was broadly endorsed by the Central Advisory Board on Education. In pursuance of this, the UGC is presently working out the detailed guidelines for setting up such universities. This experiment should be tried out in the Eighth Plan.

Science and Mathematics Education

4.15 Although undergraduate education has been expanding rapidly, the enrolment in Science courses at first degree level has not been showing any signs of growth. Enrolment in Science courses has remained static through the last few decades at less than 20% of the total enrolment. In several years, the expansion in Commerce education, for example, has been at the cost of Science education. There are reports of a significant shortage of talent in many branches of science, especially Physical Sciences and Mathematics. Most colleges in the country do not provide facilities at the undergraduate level for a moderately acceptable level of science education. It is necessary that a determined effort is made to reverse this trend and institute appropriate programmes for attracting some of the best talents in the country to science & mathematics education.

Prorotion of Excellence in Undergraduate Education.

4.16 A practical way of remedying this situation is to select a small number, say 100, of the existing well-endowed colleges in the country which have the potential to develop, and support them for intensive growth as centres of excellence in Science & Mathematics Education at the undergraduate level. The support to these colleges should enable them to provide adequate facilities and competent faculty to impart the best possible instruction at the undergraduate level to students specialising in science. Such a programme would enable us train some of our best talent for postgraduate programmes and research at a later stage. Some of these colleges may also be permitted to start Postgraduate courses so that competent faculty is attracted and retained by them. The possibility of these colleges being granted autonomous status should also be considered so that they can initiate new innovations and experiments in science education.

4.17 The UGC had initiated, in the Fourth Five Year Plan, two major programmes for improvement of teaching in Science, Humanities and Social Sciences in the colleges (COSIP and COHSSIP). About 500 colleges are participating in COHSSIP and about 400 in COSIP. These were useful programmes and are still continuing. UGC should consider increasing support for these programmes possibly through refashioning them in the light of various other initiatives that have been taken and are suggested in our report.

V. EXPANSION OF UNDERGRADUATE EDUCATION

5.1 We have drawn attention to the projected enrolment in higher education in para 3.1. These projections are based on the rate of growth registered in the past. With the expansion of enrolment in the

school system, the number of students qualifying for higher education is likely to go up further. Unless meaningful programmes of vocational education is introduced at the Secondary stage, and a large number of students are enabled to branch off into vocational/technical courses and programmes, the pressure on general higher education will continue unabated. Most of these students will be joining colleges merely in pursuit of a degree. Any apprehension that branching off into vocational/technical streams would block the way for further higher education is no longer valid. With the launching of the Open University System, which provides continuing education programmes, any learner can now pursue programmes and courses of his choice without affecting his work schedule. We hope that this matter will receive serious consideration by the Working Group dealing with Secondary education. Meanwhile, the higher education system will have to make provision for the students who will be coming out of the schools in the Eighth plan.

5.2 It is therefore necessary that the existing system has to be expanded to absorb a significant part of the growth in enrolment during the Eighth Plan. This would imply that the eighth plan should make adequate provision for expansion of the system and for the establishment of new colleges. Even if it is assumed that about 50% of the additional enrolment could be diverted to the distance learning system, the provision for expansion in the formal system will still be of the order that can enrol about 5 lakhs students in 1995. At present, the average enrolment in the colleges offering B.A./B.Sc./B.Com. courses in the country is about 550-600. On this basis, in the next five years, the total number of general education colleges will have to go up by about 1200 by 1995 unless the distance education system attracts at least half of the additional enrolment.

5.3 There are already about 2000 colleges whose enrolments are very low (300 or less). The admission capacity of these colleges can be increased to absorb a sizeable portion of the additional enrolment if they are suitably equipped for this expansion. If an attempt is made to develop these colleges adequately, not only would the quality of education of those already enrolled in them improve, but more significantly, in aggregate terms, at least 25-30% of the additional enrolment in the eighth plan could be absorbed by them. The development of as many of these colleges as possible, should therefore receive the highest priority in the Eighth Plan.

5.4 There would nevertheless be regions and areas in the country where facilities for higher education are grossly inadequate or non-existent. Establishment of a small number of colleges in such areas/regions should therefore form part of the Eighth Plan. We would recommend that a provision for the establishment of about 600 colleges in the country during the period 1990-95 should be envisaged and that necessary funds for this purpose should be built into the State Plans right from the beginning. It is necessary to ensure that no college is established unless it forms part of the plan of the concerned state.

5.5 We would recommend that while establishing these new colleges the State Governments and the concerned Universities should ensure that the minimum facilities recommended in the guidelines prepared by the UGC for granting affiliation to colleges are strictly followed. In fact, the provision required for this purpose should be estimated on the basis of these guidelines and included in the Eighth Plan when it is formulated by each State Government. Considerable care and attention

should also go into the location of these colleges and in the determination of the courses and programmes to be offered by them. We would suggest that, as far as possible, no new college should be opened to introduce first degree courses on the conventional pattern; the courses and programmes in all new colleges should be on the basis of the new design of courses we have recommended earlier. The State Governments and the State Councils for Higher Education should review the existing grant-in-aid codes for providing assistance to colleges keeping this in view and make specific provision to discourage the establishment of undergraduate colleges on the traditional lines.

VI. OPEN UNIVERSITY AND DISTANCE EDUCATION SYSTEM

6.1 The NPE/POA envisage a significant growth of the Open University and Distance Learning system in the educational development of our country. It is the recognition of this fact that prompted the establishment of the IGNOU in 1985 and in assigning to it the responsibility for introducing, promoting and co-ordinating the distance education system at the apex level.

6.2 The first Open University in the country was established in Andhra Pradesh in 1982. After the establishment of the IGNOU in 1985, two more open universities have been set up, one in Bihar and the other in Rajasthan. While the Open University in Bihar has not yet become operational, the Kota Open University in Rajasthan which incorporates the correspondence programmes of the universities in the State continues to run these programmes.

6.3 In 1987-88, 34 universities in the country have been offering correspondence courses. Together they had an enrolment of a little over 4 lakhs in 1987-88, which was about 10% of the total enrolment in higher education. Of the total enrolment in correspondence courses, the universities in the Southern region account for the largest share (71.5%), followed by the Northern region (20.5%), Western region (6%) and the Eastern region (2%). An analysis of the

university-wise enrolment in correspondence courses also indicates that the total enrolment was 2000 or less in 12 universities; between 2000 and 5000 in 8 universities, and between 5000 and 10000 in 4 universities. Only 10 universities have enrolments above 10000 in their correspondence programmes.

6.4 The Open University system in our country should not be conceived merely in terms of an alternate institutional facility for those who are unable to gain entry into universities and colleges. It should become a major component of the mass education system, and as the NPE envisages, a sensitive instrument for democratising education. It should be able to attract a sizeable proportion of students who are academically strong and talented, but would like to pursue some vocation while continuing their higher education, concurrently or at any time of their convenience.

6.5 The distance learning system should also serve an important sector of the total educational effort. Continuing education is a major area in which distance education institutions have to play a significant part. This would imply that in planning the growth and development of the distance education system, the requirements of both the sectors, namely, those who come from the formal stream and wish to continue higher education, and those who wish to improve their knowledge and qualifications through participation in continuing education programme, have to be kept in view.

EXPANSION OF DISTANCE EDUCATION

6.6 The strategy in the Eighth Plan assumes that the distance education system will absorb about 50% of the growth in enrolment. This strategy is based on two important considerations. Firstly,

the cost of creating the necessary additional facilities in the formal sector for the growth in enrolment would be prohibitive; and secondly, until the courses and programmes at the first degree level are comprehensively redesigned and reorganised, its quantitative expansion should be contained at a manageable level. The implications of this strategy for the Open University system are that it should absorb massive enrolments on the one hand, and that its courses and programmes should be more flexible and relevant, on the other.

6.7 The projected additional enrolment in the eighth plan belongs to the age-specific (17-21) segment of the population; 50% of which to be absorbed by the distance education system would be about 5 lakhs in absolute terms. The number of adult learners who would enrol in the system cannot be estimated. It would follow that the total capacity of the distance learning system has to be projected on the basis of a total enrolment of one million or more by the end of the Eighth Plan, which will be roughly 13% of the total projected enrolment in higher education.

Network of Distance Education Institutions

6.8 An expansion of the order indicated above requires greater integration and co-ordination of the facilities for distance education available at present and a well planned expansion of the system during the Eighth Plan. The success and effectiveness of the distance education system is as much dependent on the quality and standards of the instructional materials produced by it, as on the efficiency of its delivery system. If the student support services provided by open universities and distance education

institutions are not effective and efficient, the system itself will fall into disrepute.. The management capability of large enrolments would thus be a serious constraint on the distance education **system.**

6.9 On the other hand, the cost-effectiveness of the open university system depends mainly on its potential to produce quality materials and disseminate them in large quantities, which can possibly be used by more than one university. The promotion of a system in which many institutions pool their academic resources and promote, on a major scale, a country-wide network of distance education programmes is now a distinct possibility. With the IGNOU at the apex it should be possible to envisage a distance education network effectively functioning during the Eighth Plan. The essential elements of this network should be;

- a) The IGNOU as the apex body should set up a machinery for promotion and coordination of the distance education system. It should be the responsibility of this mechanism to organise and develop an effective network of distance education institutions in the country.
- b) The instructional materials developed and produced by one distance education institution should be available for use by any other institution which joins the network.
- c) Only those institutions whose courses are accredited to the network should be admitted to its privileges and function as member of the network. An Accreditation Committee consisting of experts should be set up under the auspices

of the co-ordination mechanism for this purpose.

- d) Institutions in the formal system (universities and colleges) which are offering correspondence courses or other distance education programmes and are willing to get their courses accredited, should be admitted to the membership of the network (this would imply that the broad framework of the courses, their structure, pattern, delivery system, evaluation procedures etc. of all the courses would have to be broadly similar).
- e) Institutions joining the network should be encouraged to produce courses and materials and the ICNOI should support their efforts with financial and other assistance (translation of courses and materials in different Indian languages can be a major effort in expanding distance education enrolment in the Eighth Plan).

6.10 The distance education programmes can contribute significantly to the transformation of the total education system. A major contribution that it can make is in the area of reorganising the general higher education programmes especially at the first degree level. For nearly 90% of the students joining universities and colleges, the first degree is the terminal stage. It is therefore, essential that for this vast majority of students the courses should be relevant, and are related to the employment needs of various development sectors. With the flexibility in the structure of its programmes and operations, the open university system can produce a number of relevant courses which

can also be adopted by the formal system. It is, therefore, necessary that the formal as well as the distance education system work in conjunction with each other, drawing upon the resources of each in a symbiotic relationship. It is also necessary that provision is made by both the systems for mobility of students from one to the other through appropriate systems of credit transfers.

6.11 If the distance education system has to grow on the lines indicated above, it is necessary that substantial outlays are provided to this system in the Eighth Plan. We need to look upon the distance education system not just as an adjunct of the formal system but as a strong and substantial complement to it. It can no more remain in the periphery; it must move centre-stage. We recommend that a significant part of the allocation for expansion of higher education in the Eighth Plan should appropriately be earmarked for distance education.

VII. POST GRADUATE EDUCATION AND RESEARCH

7.1 In the last 5 years or so, a number of initiatives have been taken to strengthen postgraduate education and research. In addition to the Special Assistance Programmes, a new scheme to strengthen the infrastructure in the Science and Technology Departments in the universities was initiated. New inter-university centres and facilities that can be shared by a number of universities have been set up. Efforts have been made, in certain crucial areas, to break the barriers imposed by the rigidities of the existing systems of funding responsibilities and practices. For example, the UGC took the initiative in funding major research programmes in superconductivity even if such programmes did not fall strictly within the exclusive jurisdiction of traditional universities. Similarly,

though the responsibility for funding medical education and research does not vest with the UGC, the Commission has provided support to selected departments in the medical colleges under the COSIST scheme. Further, even within the COSIST scheme itself, the emphasis has moved away from supporting the whole institution or department to smaller but viable research teams. A qualifying test has been introduced for selection of candidates for the award of research fellowships; a similar test for recruitment of teachers in universities and colleges is nearing finalisation. A scheme of Research Scientists has been instituted to enable people to pursue research as a career. All these initiatives have created an atmosphere signifying definite trend towards improvement in the system.

Special Assistance Programmes

6.2 In 1964, the UGC initiated a programme for development of Centres of Excellence in the Universities. The objective of this programme was to identify Departments which have the potential to grow into Centres of advanced study and provide them with appropriate inputs to raise their standards of teaching and research. It was envisaged that these Departments would attract teachers and students from all over the country to their post graduate courses and research programmes and thus provide a multiplier effect on standards of education. In 1989, about 25 Departments are participating in these programmes.

Strengthening of infrastructure in science and technology.

7.1 A programme of selective support to departments of science and technology to strengthen their infrastructure for post graduate courses in research (COSIST) was initiated in 1984. This programme has been expanded to cover about 100 departments by the end of the Seventh Plan.

The support provided by the U G C in the Seventh Plan was confined to additional equipment, its installation and partly the operational expenditure.

7.4 We recommend that both these programmes should be expanded in the Eighth Plan. The support to be provided by the UGC should include staff and building also in deserving cases.

7.5 The expansion of post graduate education should be an integral part of these programmes. The Departments receiving support under SAP and COSIST should use a part of this support to strengthen their teaching programmes. A larger proportion of the funds provided under these programmes should be utilised to support education and training functions as well as application of educational technology.

7.6 Mechanisms should be developed to establish linkages between departments receiving support under COSIST or Special Assistance, and those which do not receive such support. For this purpose, each department which is receiving support should identify departments in other institutions/universities to participate in joint programmes of teaching and research. Such participation can contribute to the raising of standards of teaching and research in those departments as well, though they are not receiving direct support. However, to widen the access to major research facilities, participation of teachers and researchers from those departments in joint programmes and work at the national/regional facilities should receive encouragement. Minor support provided in the form of expenditure on travel, hiring charges, consumable items, etc. could make a dramatic impact on the quality and the standards of teaching and

research in many departments if their teachers are suitably exposed to such influence. Further, such interaction would help reduce the gap between the centres of excellence and the rest of the system. A small number of centres of excellence cannot make any significant impact on the mass education system unless constant efforts are made to reduce this gap.

7.7 In planning new universities and institutions, better care has to be taken in the development of central infrastructural facilities which can be shared by a number of departments. This is essential to develop a climate of constant interaction and cooperation among departments. Since the development of high quality research infrastructure is very expensive, it is necessary to draw upon the resources available in the R&D system outside the universities also, especially in the CSIR, DRDO, DOE, etc. These facilities should be available not only for mounting joint research activities but also for organising specialised education and training programmes with the support of the physical facilities and manpower from these institutions.

7.8 The major emphasis in the Eighth Plan in post-graduate education and research should be:

- a) Continuance of the existing programmes of Special Assistance and COSIST with emphasis on effective utilisation of the inputs already provided.
- b) Additional support to the existing COSIST departments in the light of the changes in technology, advances in the relevant fields, development of newer tools for investigation and measurement, etc.

- c) Expansion of the programmes to cover new departments.
- d) Provision of inputs for strengthening inter-faces between national facilities, COSIST departments, centres of excellence, etc. on the one hand, and the rest of the system on the other.
- e) Creation of, and support to, operational mechanisms for effective linkages, support for improving the quality of educational programmes, development of teacher resources, application of educational technology and dissemination of information.
- f) Support for setting up joint R&D facilities with the participation of user sectors and industry.
- g) Provide enhanced and meaningful support to teachers for taking up minor/major research projects in various disciplines.

Common facilities and services

7.9 Following the amendment to the UGC Act in 1984, the UGC has established two major common facilities, both as autonomous organisations under the UGC. These are the Nuclear Science Centre at Delhi and the Inter-University Centre for Astronomy and Astrophysics at Pune. A third centre to be set up at Indore in collaboration with the Synchrotron Radiation Source and Free Electron Lasers has been approved in principle.

7.10 The primary objective of these centres is to provide, within the university system, frontline facilities for research with the participation of scientists and academics from the Universities, the

Institutes of Technology , and other academic institutions. These Centres are expected to develop sophisticated experimental and other research facilities, the manpower required for experimental science and, in addition, promote group activities. These Centres would function as autonomous organisations, managed by academics and researchers from the participating institutions, under the overall guidance of the UGC. The academic programmes of these Centres will be organised around a small core faculty, but at any given time, there will be a much larger number of researchers working at these centres, the majority of whom will be drawn from other universities/institutions. For this purpose, each of the centres will have a well-designed programme of visitorships. The Centres will develop the infrastructural facilities including major sophisticated equipment, library and other facilities like appropriate housing/hostel accommodation for visitors.

7.11 There are several suggestions to expand this programme in the Eighth Plan. However, new facilities as autonomous institutions have to be set up only after a careful study of all matters, including resources available for the purpose. Meanwhile, the possibility of developing such facilities in association with the existing national/ research laboratories could also be explored. Similarly, some centres of excellence already existing in the universities could be further strengthened for this purpose.

7.12 Some of the major areas in which establishment of common facilities could be considered are Laser Science and Technology, Mass Communication, Superconductivity, and Information and Library Network. Similarly, the areas in which facilities could be developed in association with national laboratories and other organisations

could be Material Science, Mass Media, Space Applications, etc. The Super Computer Centre at Bangalore, the Instrumentation Centre at Bombay and the Centre for Remote Sensing at Madras which are functioning within the University system could be upgraded.

Superconductivity and Materials Science.

7.13 The UGC has been funding programmes of education and research in several emerging areas of importance. Postgraduate courses have been instituted in Electronic Science, Marine Sciences and Bio-technology in selected universities. More recently, the Commission has taken a major initiative in funding research programmes in superconductivity. Proposals were invited from all institutions in the country which have the capability of undertaking pioneering research in this field even if they do not strictly happen to be universities in the traditional sense. It was felt that in such inter-disciplinary areas of research, it will not be advisable to wait until questions of jurisdiction are settled. This initiative had led to the emergence of some significant research groups in superconductivity as well as materials science. It is necessary that such initiatives in funding frontline areas of research are continued in the Eighth Plan.

Information and Library Network (INFLIBNET)

7.14 A most important feature of modern times is the growth of information and knowledge. They influence development, help produce new goods and services, shape international competition and co-operation; in fact, they are gradually changing the world order. Access to this information and knowledge is however shrinking in

our country. Most universities and colleges have stopped subscriptions to major journals and publications. Even those who can afford it, are reducing subscriptions in the context of the escalation in cost.

Against this background, the UGC took the initiative in getting a project report prepared to establish a network through modern technology information and communication system. The Information & Library Network (INFLIBNET) Project seeks to link the library resources of all universities, institutes of higher education and research laboratories. The project involves many agencies, several of them outside the education sector. It will not be possible to implement the project without their active support and funding. It is hoped that all these agencies would join together and share the cost involved in the implementation of the project. In any case, we recommend that the education sector should make a beginning with the implementation of this project in the Eighth Plan.

Institutional Associateship

7.15 To foster and develop linkages within the University system, a new scheme of Institutional associateship should be formulated for implementation in the Eighth Plan. The objective of this scheme should be to enable bright researchers and teachers from universities to spend varying periods each year at other selected universities to participate in research programmes/projects, extended courses, etc. While the universities/institutions where these researchers are working would pay their salary during this period, the UGC should meet the expenditure on their travel, boarding and other incidentals. The Centres participating in the associateship programme should be provided

with adequate residential accommodation for the visitors. To begin with, such a scheme should be implemented at the existing Centres of Advanced Study, the Departments of Special Assistance and the COSIST Departments. The number of associateship to be instituted in the Eighth Plan should be about 400-500.

Research in Humanities and Social Sciences.

7.16 For strengthening and promoting research in the Humanities and Social Sciences, specialised agencies have been set up. The Indian Council for Social Sciences Research, the Indian Council for Historical Research and the Indian Council for Philosophical Research have been set up mainly to promote research in their respective areas and to support projects and programmes of research in important but relatively neglected areas in these fields. The Indian Institute of Advanced Study at Simla was reorganised at the beginning of the Seventh Plan and is being developed as a Residential Centre for advanced study and research in specified fields.

7.17 Research in Social Sciences is as much an integral part of the R&D efforts as research in Science and Technology. In fact, assimilation of science and technology depends on the absorptive capacity of the society. Induction of new technologies generates developmental problems; it has a direct impact on health, education, nutrition, etc. There are other sociological dimensions as well. The impact of technology on social development, on regional development, on democratic processes, etc. require to be carefully studied and documented so that these studies can provide a perspective for the formulation of our development plans. The growth and spread of small scale industries, the development interfaces between various sectors of the economy and the society and the

emergence of a new economic order are some of the areas requiring detailed study and analysis.

7.18 Some of the specific issues that need to be taken up for study are in the areas of women's development, children and old people, migration, national integration, popular movements, etc. The break-up of the joint family system, the age problem, the enfranchisement of the young etc. are also areas which require attention. Impact studies of policies which are at present done for the purpose of evaluation should be given a different focus, namely, studies leading to appraisals of alternatives in formulation of policies.

7.19 Development of Indian languages is an area that requires greater attention. Effort should be made for production of books in the regional languages. The feasibility of joint funding of publication in social sciences, history, philosophy etc. should be explored. Development of an information network and production of literature for dissemination of information relevant to national integration must receive greater attention. The complementary role of teaching and research should be recognised and linkages should be developed between research institutions and universities.

VIII . CONSOLIDATION OF UNIVERSITIES AND COLLEGES.

State Universities

8.1 The UCC has been providing general development support to universities and colleges for strengthening their infrastructure. In the Seventh Plan 100 universities and over 3000 colleges have been receiving this support.

8.2 In the previous plans, Visiting Committees were appointed to visit each university, discuss its development plan with the

Vice-Chancellor, academics and the representatives of the concerned State Govt. and recommend the development support to be provided for various programmes. In the Seventh Plan, the representativeness of all the universities and the concerned State Governments were invited to discuss their proposals with the Commission. Through these discussions the general development proposals of all the universities were finalised and grants were sanctioned in early 1987. The Working Group was informed that the Commission has appointed Visiting Committees for each university to examine the implementation of various schemes and to make an appraisal of the directions of development in the eighth plan.

8.3 At the end of 1988, there were 18 universities which were not declared fit for assistance from the UGC. The number of eligible universities at the beginning of the eighth plan would be around 120. Since many of them are at different stages of development, it might be necessary to group them in two or three categories to estimate the quantum of general development support to be provided. In the Seventh Plan, this support varied between Rs. 50 and 125 lakhs. Since consolidation of the existing institutions is a major thrust area, we recommend that the general development support in the eighth plan should be stepped up substantially. It should range between Rs. 300 and 500 lakhs.

8.4 We hope that the recommendations of the Visiting Committees would be available shortly and that the UGC would initiate the exercise of preparing the guidelines for formulation of development proposals by the universities very soon. It would be worthwhile if the Commission can advise the universities to start this exercise early, indicating that their plans should be limited to the possible

size of the allocations indicated above, and that schemes should be drawn up in different order of priorities. In preparing the schemes, the universities should also indicate how specific proposals are related to the main focus of development and the manner in which the inputs for general development would be utilised for improving the effectiveness and efficiency of the system.

Colleges

8.5 As pointed out earlier in this report, the general support provided to colleges in the Seventh Plan worked out roughly to about Rs. 5.00 lakhs per college. The total number of colleges that received this support was only about 3000 or so. At current prices, a grant of Rs. 1.00 lakh to a college in an year is not likely to make an impact on the quality of its programmes, or the efficiency of the college system. It is therefore necessary that the quantum of support to colleges is substantially increased in the eighth plan. We would recommend that the average assistance to a college should be stepped up to about Rs. 15.00 lakhs in the plan period. Even if the number of colleges to be assisted is reduced, it is worthwhile that the level of support is raised to make some impact.

Central Universities.

8.6 The Central Universities are institutions of national importance and centres of excellence. They are expected to provide facilities for teaching and research in highly specialised fields for students all over the country. Some of the Central Universities (Aligarh, Benaras, Delhi and Vishwabharati) are very old. They require substantial funds for consolidation, removal of

obsolescence, repair to old buildings, provision of more staff quarters and hostels, etc. The remaining central universities (JNU, Hyderabad, NEHU and Pondicherry) are very new. The Jamia Millia Islamia has just come under a Central Act. Most of these universities have not so far developed all their infrastructure associated with the initial phase of establishment. There are, in addition, commitments to establish two more central universities, one in Assam and the other in Nagaland.

8.7 Keeping in view the fact that the Central Universities are national institutions and have to draw teachers and students from all over the country, high priority needs to be given to construction of staff quarters and hostels for them. These universities should however, ensure that at least 40% of the newly constructed staff quarters are reserved for faculty recruited from outside the States in which they are located. The old universities will also need to be provided with substantial additional funds for purchase of modern equipment, books and journals.

8.8 A greater degree of coordination in the development of facilities in the Central Universities would be desirable. For example, highly specialised courses introduced in one central university should be able to attract students from all over the country and need not have to be offered by another. Similarly, sophisticated equipment and instrumentation facilities should be developed as a central facility within each university for use by all Departments rather than locating them in specialised departments for their exclusive use.

8.9 The Central Universities should attempt to contain their undergraduate enrolments. Admission capacity for all programmes should be determined, and adhered to. New courses should be inter-disciplinary and job-oriented. Curriculum development programmes should be taken up by the central universities on a large scale. High priority should be attached to the professional development of teachers

8.10 There is considerable scope for improvements in the administrative efficiency of the central universities. Increase in staff positions should be contained and existing staff should be redeployed, if necessary, after retraining, for new programmes and activities. Work relating to accounts, administration, etc. should be computerised. Efforts should be made to confer autonomy on departments. We should also suggest that the present practice of asking for additional staff positions in respect of every new programme and activity should be reviewed. This practice has led to a dramatic escalation in the maintenance expenditure of the Central Universities.

8.11 With the rapid expansion in enrolments, and the acute scarcity of resources even for providing the basic infrastructure, the provision for student services has been totally neglected. Basic amenities like student hostels have become extremely scarce. A serious consequence of the shortage of hostel accommodation has been the total lack of mobility among students between universities and States. Indeed, the cost of this default is proving to be much higher than the provision of these amenities from the point of view of the unity and integrity of the country and the absence of cohesiveness among the people. Though it might not be possible to provide even moderate hostel accommodation in all the universities, we recommend that a beginning should be made in the Eighth Plan by supporting provision of hostel facilities on a substantial scale. We have recommended a small provision for this purpose.

Cubicles for Teachers.

8.12 The National Commission for Teachers in Higher Education had pointed out in most colleges in the country, there is no space for teachers either to keep assignments and records in safe custody, or to meet students to give them advice and counsel. The Teachers' Commission had recommended that a determined effort should be made to provide at least 25% of the teachers in colleges with a small cubicle where they can meet the students and keep their records. We need hardly emphasise the fact that much of the teacher absenteeism is due to the absence of a proper work place for our teachers. We recommend that a very modest beginning should be made in the Fifth Plan by introducing a scheme for providing a cubicle for teachers. Even a token allocation of Rs. 25 crores for this purpose should in our view be a recognition of the urgency for providing this much-needed facility.

IX. EDUCATION-COMMUNITY LINKAGES

Extension programmes and Community Development

9.1 Extension programmes in the universities are presently organised around three major areas, namely; Adult and Continuing Education, Eradication of Illiteracy and Population Education. 77 universities were participating in this programme in 1980 and by the end of the Seventh Plan, it is expected that 100 universities would be involved in various extension activities. The annual expenditure on this programme in 1990 would be of the order of Rs. 11 crores.

9.2 The focus of extension programmes and activities has by and large been limited to Adult Education and literacy programmes. There have so far been no attempts in integrating extension programmes with the structure of the curriculum and their content. The staff involved in extension programmes in most of cases are treated at par with teachers. Although the NPE/POA suggest that participation in NSS, Sports and Physical Education, etc. should be treated as an integral component of the courses, earning appropriate credits, no mechanism for this purpose has evolved so far.

9.3 The major objective of the extension programmes is as much to provide an experience to students through exposure to, and participation in, the development process of the community as to transfer the benefit of knowledge and its application to the community. If this objective is to be fulfilled, such participation must be recognised towards the fulfilment of curricular requirements with appropriate credits in the case of students. As far as teachers are concerned, guidance, supervision and actual participation in

these programmes should form part of their academic responsibilities and count in the appraisal of their performance. In the context of the launching of the National Literacy Mission, participation of university and college students in the fulfilment of the MLM targets should continue to be a major concern in the first two years of the Eighth Plan. It would be preferable if the universities and colleges adopt an area approach in the implementation of this programme so that its impact can be assessed. If such an approach is adopted, the scope of the programme can be enlarged to cover other development activities also within the identified areas.

9.4 The Curriculum Development Centres established by the UGC should address themselves to the task of integrating extension activities with the structure of the curriculum in the relevant disciplines. For most of the general undergraduate courses, about 20 to 30% of the curriculum time could be earmarked for extension programmes. Simultaneously, greater attention should also be given to the training and orientation of academic staff involved in the extension programmes and activities. Some provision should be made for this purpose in the orientation programmes organised by the Academic Staff Colleges. Provision could also be made for the production and dissemination of material for extension activities in the form of audio and video cassettes.

9.5 With the launching of the MLM, the universities should progressively reduce the number of Adult Education Centres, and instead establish JSNs as the nucleus for all extension programmes in the areas adopted by them. Universities/colleges should prepare detailed operational plans for the areas so adopted specifying the detailed

tasks to be undertaken.

Integrated Development of the Human Personality.

9.6 Participation in community development programmes provides students useful learning opportunities; it enlarges their horizons, it enriches their perceptions. Through these experiences, students would be able to imbibe the values of social service, group efforts, leadership, etc. There are other areas also which contribute to the development of human personality: physical education, sports, cultural activities and so on. Participation in these activities provides opportunities for the development of the creative potential in the individual. It is an integrated development of the total human personality that education should seek to achieve, if it has to serve the needs of human resource development in a larger sense. The education system should make appropriate provision for participation by students in these activities on a massive scale.

9.7 Education must also promote the values of national integration, secularism, etc. Conscious efforts will have to be made to break the barriers of languages and religions which seem to fragment our social fabric. We need to promote mobility of students on a much larger scale, between states and regions. Provision should be made to reserve 20-30% seats in well-established universities and colleges all over the country for the admission of students on all-India basis, or at least from the neighbouring states. It should also be the responsibility of the university system to organise camps, festivals, excursions, etc. of students outside their states so that they are exposed to the diversities of our social and cultural heritage. We cannot let our students grow in an atmosphere of insularity; our universities must reaffirm their

universality.

9.8 The enrichment and growth of our regional languages is an objective of our education system. All efforts should be made to encourage the use of regional languages as the media of instruction and examinations in the universities and colleges. At the same time, efforts will also have to be made to encourage the study and use of the link languages to foster and develop inter-state mobility. The development of the regional languages demands continuous and sustained efforts in the development, production and dissemination of teaching and learning materials in all disciplines in all languages. Attempts will have to be made to produce such materials by teachers in universities and colleges, and also jointly with scientists, researchers and other scholars working in the Laboratories, Research Institutes, etc.

Women's education

9.9 The growth of higher education among women has been very rapid since Independence. They accounted for over 30% of the total enrolment in higher education during 1986-87. States which had higher ratios of enrolment of women were: Kerala (50.4%), Punjab (45.5%), Delhi (43.5%), Haryana (40.7%), Meghalaya/Nagaland (38.6%), Tamil Nadu (36.5%), J & K (35.9%), West Bengal (35.5%), Maharashtra (34.7%), Gujarat (34.3%), Manipur (32.5%) and Madhya Pradesh (31%). At the other end of the scale are states like Bihar (15.1%), UP (21.4%) and Rajasthan (22.9%).

9.10 The enrolment ratio of women in higher education in different states also reflects the unevenness in the overall educational development in these States. Unless efforts are made for enrolment and retention of a larger proportion of girls in primary and secondary education, the ratio of their enrolment in higher education is not likely to be very different.

Nevertheless some efforts would be worthwhile in the direction of encouraging higher education among women in the rural areas, and in designing and organising programmes which are relevant to the employment needs in the rural sector. We suggest that the UGC may take steps in developing such programmes either through the existing curriculum centres or through special cells to be set up for the purpose.

9.11 The UGC had formulated a programme for establishment of Women's Studies Centres in selected universities. We understand that only a small number of such centres have been set up so far. The NPE/POA advocate a positive and interventionist role in the empowerment of women and the equalisation of educational opportunities for them. In this context, it is necessary that the Women's Studies Programme is taken with greater vigour. It would be useful if these centres can identify relevant components in the National Perspective Plan for Women's Development and organise their programmes and activities around those elements. It is also necessary to consider greater emphasis on training and skill development in those areas in which self-employment opportunities for women are greater.

9.12 In the Seventh Plan, the UGC had entrusted the task of preparation of curriculum for women's studies at the undergraduate level to some selected universities. These centres should be advised not only to prepare fresh material for women's studies, but also to examine the existing curricular and course materials for various programmes with a view to removing the gender bias wherever it exists. The new material to be developed by the centres should include those relating to the promotion of values concerning women, their status, role and responsibility.

Population Education

9.13 The UGC launched a programme of Population Education through the universities and colleges in the Seventh Plan. Twelve Population Education Research Centres have been set up under this programme to develop and produce materials for population education, training of personnel, evaluation and documentation of various programmes and their integration with the undergraduate courses. Some 1400 Population Education Clubs set up in the universities and colleges are involved in educating the community about the family welfare programmes at various levels. These programmes are reported to have been well received and the quality of the materials produced by the PERCs has been appreciated. We recommend that this programme should be strengthened and further extended to cover more universities and colleges. The universities and colleges to be selected for inclusion in this programme should be those located at centres where family welfare programmes are still to make an impact.

Special Programme for Weaker Sections.

9.14 We have made several recommendations for reorganisation and development of the higher education system. The implementation of these recommendations would be of direct benefit to the entire community. It is difficult to make any assessment of the benefits that would flow to any particular segment, be they Scheduled Castes/Scheduled Tribes or any other sections.

9.15 There are however certain programmes that could be formulated and implemented for the direct benefit of the weaker sections. With the expansion of the school system, and the efforts that are being made to retain children in the schools, we do expect that the number of students belonging to SC/ST communities who will become eligible for admission

to higher education institutions in the Eighth Plan would be substantially higher. It is therefore of utmost importance that special programmes are organised to remove any deficiencies in the academic attainments so that they can take full advantage of the facilities for higher education. Programmes of remedial teaching were initiated sometime back especially to strengthen the learning of mathematics and for the development of communication skills among the weaker sections. These programmes should be expanded and continued in the Eighth Plan. It is also important that programmes of preparatory training and special coaching, especially those designed to prepare students belonging to the weaker sections for various tests for admission to professional courses (Engineering, Management, etc.) and also for competitive examinations for recruit to various jobs and services continue to be implemented.

9.16 Besides, the fellowship programmes for SC/ST already being implemented by the UGC should be expanded. We recommend that the number of fellowships exclusively earmarked for the SC/ST should be increased in the Eighth Plan.

9.17 Similarly, while sanctioning research projects, preference should be given to projects in the area of development of SC/ST and other weaker sections. Special assistance should be provided to the development of institutions catering substantially to the needs of SC/ST and those located in areas which have a large concentration of these sections. We recommend that the State Councils of higher education should be asked to identify such colleges and formulate a plan for their intensive development. The U G C

could earmark some assistance for the development of these colleges in the Eighth Plan.

X. OTHER PROGRAMMES

Rural Higher Education.

10.1 The NPE lays special emphasis on the development of higher education specially related to the needs of the rural areas. It had suggested that the Rural University concept should be strengthened and that institutions involved in rural higher education should be developed to undertake planning at the grassroot level based on Gandhian ideals of basic education. A detailed project report to develop Rural Institutes was prepared. The proposals envisaged in the project report are:

- a) Establishment of a Central Council of Rural Institutes as an autonomous body to evolve a system of education which is relevant to the needs of the rural communities and of rural development.
- b) The new pattern of education through rural institutes should be based on the concept of co-relation between socially useful, productive work and academic activities. The academic programmes should be designed on the basis of surveys of local employment/self-employment opportunities and possibilities.
- c) Composite institutions providing education right from the primary to the highest level should be preferred. Efforts should be made to ensure vertical and horizontal mobility of students between rural institutes and

traditional colleges, and vice versa.

- d) Linkages should be established with the National/ State Open Schools, IGNOU and other Open Universities.

10.2 The project has not been sanctioned for implementation till December, 1983. The proposals are very important to develop a system of rural higher education which is need-based and would help the rural youth to stay in their own environment rather than migrate to cities looking for white collar jobs. The linkages of these institutes with the distance learning system can ensure for their students a variety of distance learning programmes also for improving their knowledge and qualifications. We recommend that this project should be taken up for implementation in a big way in the eighth plan.

Educational Technology

10.3 The UGC- INSAT programme was launched in August, 1984. The programmes telecast have so far been to support undergraduate programmes and to enrich them. Curriculum-based telecasts have not been initiated so far. Four Educational Media Research Centres and Seven Audio Visual Research Centres have been set up to support the programme with training of manpower and production of programmes. Efforts have also been initiated to produce model telecourses based on the curriculum for undergraduate courses in selected disciplines.

10.4 The programme has had a run of five years and has provided valuable experience in an important area of educational technology. It is now possible to expand this programme on a large scale. This would require on the one hand allocation of specific time-slots on Radio and

Television for broadcast/telecast of educational programmes, and on the other, a major expansion of the indigenous programme production capabilities. Possibilities may have to be explored for the establishment of specialised institutions and facilities for production of educational software on a large scale in addition to those being produced already by the existing centres as well as by IGNOU

National Testing Service

10.5 The establishment of the National Testing Service as envisaged in the NPE was approved by the Govt. The NTS is expected to become functional in 1989-90. To begin with, the NTS will concentrate on conducting tests and certifying the skills and competence of candidates for specialised jobs and services. These tests will be voluntary, but it is expected that various employing agencies would take cognisance of these tests and will offer employment to candidates who qualify in them. The NTS will also function, in course of time, as a specialised professional agency in educational testing by developing itself as a Resource Centre and providing consultancy services to universities and other institutions.

10.6 As educational testing is a highly complex area, and many of the ills of our education system are attributed to the loss of credibility of its examinations, it is necessary that right from the beginning, the NTS is developed as a most modern testing facility. This would require highly sophisticated equipment, some of which may even have to be imported. The success of the NTS experiment will depend on the professional competence that it can develop and the availability of modern facilities and equipment. It is therefore important that

adequate attention is given to these matters right from the beginning

National and State Councils for Higher Education

10.7 The NPE had envisaged the establishment of an apex body at the national level to coordinate the development of higher education among various national agencies and to ensure consistency in policy. No concrete proposal for establishment of such a body has yet been finalised. We recommend that efforts should be made to finalise the scope, powers and functions of the proposed apex body as early as possible so that it can start functioning from the beginning of the next plan.

10.8 State level planning and coordination of higher education is a very important area. There has been no machinery for this purpose so far. With the massive expansion of the higher education system, great deal more attention is now necessary to coordinate the development in this sector and initiate proper planning of facilities and their utilisation. The UGC has framed guidelines for the establishment of such bodies by the State Govts. We hope that all the major States will initiate steps to set up these councils early and that they will start functioning from the commencement of the eighth plan.

Accreditation and Assessment Council

10.9 Establishment of a machinery for assessment and accreditation of institutions of higher learning was an important proposal contained in the Programme of Action. The objective of this proposal was to encourage regular appraisals of the performance of institutions mainly through self-assessment. A concept paper has already been prepared and is being discussed among academics and others. We hope that this proposal will get finalised soon and implemented in the eighth

XI.

RESOURCES AND FUNDING

11.1 The National Policy on Education emphasises the imperative need for consolidation of existing facilities for higher education, redesigning of courses, improvements in efficiency and productivity, innovations in management, and so on. Education cannot become an effective means to improve the life and work patterns of our people, and contribute to their intellectual, social and emotional development, unless the nation is prepared to make the necessary investments in this sector.

11.2 Studies indicate that in real terms, the per capita expenditure on higher education has been steadily declining, while the cost, specially on salaries, books, journals, equipment, etc., has been rapidly rising. With the expansion of the system, the per capita expenditure will further decline unless corresponding additional resources are made available for further investments.

11.3 Consolidation of the existing facilities itself will be a major task. The absence of planning in the past and establishment of institutions without any worthwhile preparatory work, have contributed to the accumulation of deficiencies which it will not be possible to remove in any single plan. While attention needs to be given to remove the accumulated deficiencies, new institutions that are to be established will also require considerable funds.

11.4 The higher education system does not generate any internal resources. The fee structure has not been reviewed in the last four decades. The cost of higher education to the students is very nominal. The recovery of cost by the institutions from the students varies between 2 and 5% of the recurring cost. In the context of rising costs,

it is necessary that a larger proportion of the cost is recovered from the beneficiaries.

Review of Fees Structure

11.5 There have been suggestions in the past that if increase in fees for all courses across the board is not found feasible immediately, an effort should be made at least to charge a higher level of fees for professional courses at the end of which most students are able to get employment. However, it appears that this question is still to be addressed with the seriousness that it deserves. We recommend that an effort in this direction should be initiated in the Eighth Plan and that at least in respect of the professional courses a much larger part of the cost incurred should be recovered from the students.

Loan Scholarships

11.6 Another possibility that we recommend for immediate consideration is the introduction of a scheme of Loan Scholarships. The objective of this scheme is to enable the beneficiaries pay for their education. It will not only help recover a substantial part of the cost but also make the students conscious of the cost of their education. At the same time, those who cannot afford to pay the high cost involved will be able to meet the cost of their education. Under this scheme, all students when admitted to specified professional courses might be eligible for loan scholarships. These scholarships will carry an enforceable obligation on the part of recipients to repay the loan with a nominal interest. We recommend that a scheme to institute a revolving fund may be introduced in the Eighth Plan with a corpus of about Rs. 50 crores or so. This could gradually be increased with additional contributions; the recoveries could also be ploughed back

for financing fresh loan scholarships.

Sharing of expenditure by other development sectors.

11.7 All development projects involve some outlays on human resource development. Since educated manpower is available in our country in large numbers, most of the development sectors do not have to make any significant investment on human resources, at least for the initial education of their employees. The research and development sector has also been growing substantially in the recent past. According to an estimate, the total outlay on R & D in the country is much larger than the total expenditure on all Postgraduate education and research in the education sector. In order to correct the situation, it will be worthwhile if all development sectors are asked to earmark a fraction of their outlays for the education and training of the manpower required for their projects. Similar suggestions have been made in the past, but somehow they have not been acted upon. We reiterate this recommendation and hope that at least a beginning in this direction would be made in the Eighth Plan.

Outlays in the Eighth Plan.

11.8. On the basis of the recommendations that we have made, the outlays to be provided for various programmes in the Eighth Plan have been worked out and are given in the following statement:

OUTLAYS PROPOSED FOR HIGHER EDUCATION PROGRAMMES IN THE EIGHTH PLAN
(1990-1995)

(Rs in crores).

Major Schemes	OUTLAYS		
	Central Sector	State Sector	Tot
I. <u>Consolidation of Existing Institutions:</u>			
a) 120 State Universities including deemed universities (Average support between Rs. 3 and 5 crores)	300.00	200.00	500
b) 11 Central Universities (including two new universities to be set up)	150.00	--	150
c) 5000 colleges @ Rs. 15.00 lakhs per college	375.00	375.00	750
d) Students Services (including Hostels)	50.00	50.00	100
e) Cubicles for Teachers	15.00	15.00	30
II. <u>Expansion of Undergraduate Education:</u>			
a) Establishment of 600 colleges (capital expenditure)	--	300.00	300
b) Additional enrolment of 5 lakhs students in colleges @ Rs. 3600 per capita per year in the last year	--	300.00	300
c) Additional enrolment of 10 lakhs students in Open University/Distance Learning Programmes @ Rs. 1200 per capita	100.00	100.00	200
III. <u>Reorganisation of Undergraduate Education:</u>			
a) Curriculum Development	50.00	--	50
b) Restructuring Courses			
c) Examination Reform, etc.			
d) Promotion of Excellence in undergraduate education	100.00	--	100
IV. <u>Open Universities:</u>			
IGNOU and State Open Universities	50.00	50.00	100
V. <u>Postgraduate Education and Research:</u>			
a) Special Assistance Programmes	150.00	--	150
b) COSIST	75.00	--	75
C.F.	1415.00	1390.00	2805

(Rs. in crores)

	B.F.			
	1415.00	1390	2805.00	
c) Common Services and Facilities:				
i) Nuclear Science Centre and INCC, Pune)	100.00	--	100.00	
ii) Synchrotron Radiation Centre, Indore)				
iii) New Inter-University Centres	50.00	--	50.00	
iv) Superconductivity and Materials Science	20.00	--	20.00	
v) INFLIBNET	50.00	--	50.00	
vi) Institutional Associateship	5.00	--	5.00	
d) Other Programmes of Postgraduate Teaching and Research	100.00	50.00	150.00	
VI <u>Research in Social Sciences and Humanities</u> (ICSSR, ICHR, ISIRI, IIAS, etc.)	75.00	--	75.00	
VII <u>Extension Programmes and Linkages:</u>				
a) NLM and related Programmes	65.00	35.00	100.00	
b) Countrywide Classroom project and Mass Communications	50.00	--	50.00	
VIII Teacher Training and Professional Development	100.00	--	100.00	
IX Autonomous Colleges	75.00	--	75.00	
X Rural Institutes/Universities	25.00	25.00	50.00	
XI <u>Other Programmes:</u>				
a) Educational Technology	25.00	--	25.00	
b) National Testing Service	10.00	--	10.00	
c) National Council for Higher Education	5.00	--	5.00	
d) State Councils of Higher Education	--	10.00	10.00	
e) Accreditation and Assessment Council	5.00	--	5.00	
XII Loan and Grants	10.00	40.00	50.00	
	<u>2185.00</u>	<u>1550.00</u>	<u>3735.00</u>	

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Education - Eighth Five Year Plan

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Planning Commission
(Education Division)

Terms of Reference of the Working Group on Higher
Education - Eighth Five year Plan

1. To take stock of the position likely to be reached within the area by the end of 1989-90 both in relation to original programme of the Seventh Plan and the new initiative under NPE '86/Programme of Action, to identify problems and suggest effective remedial measures.
2. To suggest a feasible perspective of development upto 2005 A.D. keeping in view the need for grass root Planning and to make the benefits of development programmes accessible to the weaker sections of society viz. SC/ST/women/handicapped/backward communities and to fully involve their interest in the drawing up of the development programmes.
3. To suggest measures for upgrading the standards, facilities and attainments of backward states/regions/districts.
4. To specify in clear terms the objectives of programmes in higher education sector for the Eighth Plan.
5. To suggest measures for effective linkages between higher education and other relevant development sectors including rural development, industrial development, environment, health, agriculture etc.
6. To examine in detail the several aspects of making education relevant to development needs and to enhance the employability of the educated with particular reference to the need to develop extensively usable skills among the people.
7. To take note of and suggest innovative measures for developing meaningful system of distance education and utilisation of modern communication technology.
8. To take note of and suggest innovative measures and opportunities to improve the existing facilities and introduce low-cost alternatives to achieve various specified goals and objectives of educational plans.
9. To suggest measures for involvement of community and voluntary organisations in the development of higher education.
10. To examine critically the following:-
 - (a) The new model of affiliating university as a supplement to the scheme of autonomous colleges and to suggest measures to implement the same.

- (b) Progress of restructuring of degree programme and suggest measures to spread the scheme across the university system.
 - (c) Measures to promote research in indology and classical languages in higher education system.
 - (d) Student services including those for foreign students in India and to recommend measures to make them more effective, keeping in view the emerging profile of India as a provider of higher education facilities to students from developing countries of Asia and Africa.
 - (e) Measures to raise standards of education with particular reference to comparability of Indian degrees internationally.
 - (f) To consider norms for a viable college and to examine the incidence of sub-standard colleges which need to be closed, merged or otherwise rationalised for saving valuable resources and for raising standards.
 - (g) To consider the possibility of coordinating development of universities not only within a State but also region and nation as a whole so that the faculties are not multiplied unnecessarily and the resources in manpower and other educational facilities are saved.
11. To suggest measure for coordination between general education on the one hand and medical education, agricultural education and other professional streams of education as the other with a view to avoid fragmentation of the system.
12. To consider such other matters as the Chairman consider relevant for formulating Eighth Plan proposals.
13. To formulate feasible proposals for the Eighth Five Year Plan (1990-95) in the light of above perspective indicating priorities, policies and financial costs.

APPENDIX-III

STATEMENT : I

Projections of Stageswise Enrolment in Higher Education

by the year - 2000 A.D.

(Figures in lakhs)

<u>Year</u>	<u>Graduate</u>	<u>Postgraduate</u>	<u>Research</u>	<u>Others</u>	<u>Total</u>
1970	17.46	1.61	0.13	0.33	19.53
1975	21.47	2.20	0.18	0.41	24.26
1980	24.00	2.73	0.32	0.35	27.52
1985	31.42	3.39	0.39	0.50	35.70
1990	38.73	4.42	0.44	0.67	44.26
1995	48.02	5.49	0.55	0.82	54.88
2000	59.54	6.80	0.68	1.02	68.05

- Note: i) Total enrolment is assumed to increase at an average rate of 4.1% per annum which has been the rate of growth registered during the period 1970 to 1985.
- ii) The break up of the total enrolment into Stage is shown on the basis of 87.5% in undergraduate, 10% in postgraduate, 1% in research and 1.5% in others.

Projections of enrolment in undergraduate courses in the
faculties of Arts, Science and Commerce by 2000 AD.

(Figures in lakh)

Year	Arts	Science	Commerce	Total
1970	7.30	4.70	2.36	14.36
1975	9.35	4.12	3.83	17.30
1980	9.34	4.68	5.10	19.13
1985	12.57	6.28	6.28	25.13
1990	15.49	7.75	7.74	30.98
1995	19.21	9.60	9.60	38.41
2000	23.82	11.91	11.90	47.63

- Notes:
- i) The enrolment in undergraduate courses is 87.5% of the total enrolment.
 - ii) The enrolment in Arts, Science and Commerce courses is assumed to be 80% of the total undergraduate enrolment.
 - iii) The break up of enrolment in Arts, Science and Commerce courses is assumed to be in the ratio of 2:1:1.

STATEMENT : III

Growth in the Number of colleges

S.No. Type of colleges	1970-71	1975-76	1980-81	1985-86	1986-87
1. Arts/Science/Commerce	2587	3257	3393	4132	4301
2. Engineering/Technology	107	109	149	242	248
3. Medicine/Pharmacy etc.	176	232	262	320	332
4. Agriculture	57	56	54	63	65
5. Veterinary	23	23	25	30	32
6. Law	91	132	163	199	201
7. Education	258	315	350	441	467
8. Oriental Learning	226	271	274	321	321
9. Music/Fine Arts	79	113	52	68	73
Total	3604	4508	4722	5816	6040

Projection of the growth in the number of Arts/Science/Commerce Colleges by the year 2000 AD.

Year	Undergraduate Enrolment in BA/ B.Sc./B.Com. courses	No. of colleges offering Arts/Science/ Commerce Courses
1970	14,36,000	2587
1975	17,31,000	3257
1980	19,13,000	3391
1985	25,13,000	4132
1990	30,98,000	5163
1995	38,41,000	6400
2000	47,63,000	7938

Note: The average enrolment in a college for BA/BSc/BCom courses is assumed as about 550-600.

Total enrolment in Distance Education in India

	University Departments & Colleges	Distance Education (Universities & Institutions)	Total Enrolment
	(1)	(2)	(3 = 1+2)
1975-76	24,26,109 (97.4)	64,210 (2.6)	24,90,319 (100.0)
1976-77	24,31,563 (96.8)	79,718 (3.2)	25,11,281 (100.0)
1977-78	25,64,972 (95.6)	1,19,163 (5.5)	26,84,135 (100.0)
1978-79	26,18,228 (95.1)	1,33,459 (4.9)	27,51,687 (100.0)
1979-80	26,48,579 (95.1)	1,36,699 (4.9)	27,85,278 (100)
1980-81	27,52,437 (94.3)	1,66,428 (5.7)	29,18,865 (100.0)
1981-82	29,52,066 (93.8)	1,93,691 (6.2)	31,45,757 (100.0)
1982-83	31,33,093 (94.1)	1,97,555 (5.9)	33,30,648 (100.0)
1983-84	33,07,649	n.a.	----
1984-85	34,04,096	n.a.	----
1985-86	35,70,897 (91.0)	3,55,090 (9.0)	39,25,987 (100.0)
1986-87	36,81,870 (91.1)	3,57,791 (8.9)	40,39,661 (100.0)
1987-88	n.a.	4,02,720	n.a.

Note: Figures in parenthesis indicate the percentage.

Statewise Distribution of Enrolment in Higher Education in India (1986-87) -
Formal and Distance Education.

	Colleges & University Departments	Distance Education	Total	Share of Distance Education in total
	(1)	(2)	(3)	(4=2/3x100)
<u>SOUTHERN REGION</u>				
1. Andhra Pradesh	2,79,822	65,980	3,45,802	19.1
2. Karnataka	2,54,049	7,572	2,63,621	2.9
3. Kerala	1,43,593	5,133	1,48,726	3.5
4. Tamil Nadu	2,61,413	1,86,820	4,48,233	41.7
Sub-total	<u>9,38,877</u>	<u>2,65,505</u>	<u>12,04,382</u>	<u>22.0</u>
<u>NORTHERN REGION</u>				
5. Delhi	1,03,092	22,743	1,25,835	18.1
6. Haryana	73,637	4,358	77,995	5.6
7. Himachal Pradesh	20,250	7,181	27,431	26.2
8. Jammu & Kashmir	29,455	2,043	31,498	6.5
9. Punjab	1,36,229	14,533	1,50,762	9.6
10. Rajasthan	1,80,412	13,045	1,93,457	6.7
11. Uttar Pradesh	5,08,093	2,476	5,10,574	0.5
Sub-total	<u>10,57,173</u>	<u>66,379</u>	<u>11,17,552</u>	<u>5.9</u>
<u>CENTRAL & WESTERN REGION</u>				
12. Madhya Pradesh	2,72,458	1,556	2,70,014	0.6
13. Maharashtra	4,78,643	20,448	4,99,091	4.1
14. Gujarat	2,13,549	89	2,13,638	0.04
Sub-total	<u>9,64,650</u>	<u>22,093</u>	<u>9,86,743</u>	<u>2.2</u>
<u>EASTERN REGION</u>				
15. ASSAM	81,001	-----	81,001	-----
16. Bihar	2,65,095	2,380	2,67,475	0.9
17. Manipur	11,046	-----	11,046	-----
18. Meghalaya/Nagaland	9,205	-----	9,205	-----
19. Orissa	73,637	1,434	75,071	1.9
20. West Bengal/ Tripura/Sikkim	2,87,136	-----	2,87,136	-----
Sub-total	<u>7,27,170</u>	<u>3,814</u>	<u>7,30,984</u>	<u>0.5</u>
<u>GRAND TOTAL</u>	<u>36,81,870</u>	<u>3,57,791</u>	<u>40,39,661</u>	<u>8.9</u>

Source: Data has been compiled from University Grants Commission, Report for the Year 1986-87 and earlier Reports.