

The Main Recommendations of the Education Commission

(A Summary)

J. P. Naik



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FOREWORD

THE EDUCATION COMMISSION appointed by the Government of India in July 1964 submitted its comprehensive Report in June 1966, recommending guiding principles and working policies for the development of Indian Education at all stages and in all aspects. Since its publication in June 1966, the Report has been discussed in great detail in and outside the Parliament.

The present Summary, covering the main recommendations of the Education Commission, was prepared by Shri J.P. Naik, Member-Secretary, Education Commission and Adviser to the Government of India, for the Members of Parliament. Although the basis of its contents is the main Report of the Commission, its presentation has been simplified for purposes of ready reference. If, however, it appears to deviate at any point from the recommendations of the Commission, it is the main Report that should be taken as valid.

The National Council of Educational Research and Training expresses its gratitude to Shri J.P. Naik for allowing the Council to print this book. Hindi translation of this book has been published by the Government of Rajasthan. The Council would welcome proposals from other State Governments for its translation by them into regional languages.

SHIB K. MITRA,
Joint Director

National Council of Educational
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New Delhi
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CONTENTS

	<i>Pages</i>
Foreword	iii
I. Introductory	
II. Transformation of the Character of the Educational System	2-10
1. Relating Education to Productivity	
2. Promoting Social and National Integration	
(i) National Consciousness	
(ii) Social or National Service	
(iii) Common School System of Public Education	
(iv) Inter-State Understanding	
(v) Hindi and English	
(vi) Modern Indian Languages	
3. Value Orientation	
4. Modern Methods of Teaching and Evaluation	
5. Elasticity and Dynamism	
III. Improvement of Quality	11-31
1. Intensive Utilization of Facilities	
2. Teachers	
(i) Remuneration	
(ii) Other Benefits	
(iii) Conditions of Work and Service	
(iv) Professional Preparation	
3. School Curricula	
4. Reorganization of Courses at the University Stage	
5. School Textbooks	
6. Textbooks and Other Literature for Higher Education	

7. Book Supply to Students
8. Reform of the Examination System
9. Size and Planning the Location of Educational Institutions and Provision of Facilities
10. Student Services
11. Discovery and Development of Talent
12. A Nation-wide Programme for the Improvement of Educational Institutions
13. The New Supervision

IV. Problems of Expansion and Equalization of Educational Opportunities

32-2-46

1. Primary Education
2. Liquidation of Adult Illiteracy
3. Education and Manpower Needs
4. Selective Admissions
5. Part-time Education and Private Study
6. Enrolment at Different Stages
7. Education and Employment
8. Equalization of Educational Opportunities
 - (i) Free Education
 - (ii) Scholarships and Other Forms of Student Aid
 - (iii) Education of the Handicapped Children
 - (iv) Regional Imbalances
 - (v) Education of Girls
 - (vi) Education of the Backward Classes

V. Some Special Programmes

4747-71

1. Vocationalisation of Secondary Education
 - (i) Agricultural Education
 - (ii) Education for Industry

2. Centres of Advanced Study and Major Universities
3. New Universities and Colleges
4. Strengthening of the Universities
 - (i) University Autonomy
 - (ii) University Finances
 - (iii) Role and Appointment of the Vice-Chancellor
 - (iv) Autonomy within a University
 - (v) Legislation for Universities
5. The University Grants Commission
6. Science and Technology
 - (i) Science Education
 - (ii) Scientific Research
 - (iii) National Science Policy
 - (iv) Agricultural Universities and Colleges
 - (v) Education of Engineers
7. Reorganisation of the Educational Structure
8. Adult Education
9. Pre-Primary Education
10. Educational Buildings
11. Educational Research

VI. Educational Planning, Administration and Finance

72-90

1. Educational Planning
2. Controlling Agencies
 - (i) The Role of Central Government
 - (ii) The Role of Local Authorities
 - (iii) The Role of Private Enterprise
3. Reorganisation of Educational Administration at the National Level
 - (i) Ministry of Education
 - (ii) National Council of Educational Research and Training
 - (iii) Indian Educational Service

4. Reorganisation of Educational Administration at the State Level
 - (i) Educational Administration at the State Level
 - (ii) Directorate of Education
 - (iii) District Level Organization
 - (iv) State Institutes of Education
 - (v) State Boards of School Education
 - (vi) Indian Educational Services
 - (vii) State Educational Services
 - (viii) Training of Educational Administrators
 - (ix) National Staff College for Educational Administrators
 - (x) Procedures
 - (xi) Education Acts
5. Educational Finance
 - (i) Expenditure on Education (1950-65)
 - (ii) Expenditure on Education (1966-85)
 - (iii) A Strategy of Development

VIII. Need for Vigorous and Sustained Implementation

91-992

Appendices

I—Salaries of Teachers	95-996
II—School Curriculum	97-998
III—Enrolments in Education (1950-85)	99-1100
IV—Grant-in-aid	101-1104
V—Educational Expenditure	105-1111

I

INTRODUCTION

Education has always been important, but perhaps never more so in man's history than today. In a science-based world, education and research, properly organised and closely related to the life, needs and aspirations of the people, is crucial to the entire developmental process of a country, its welfare, progress and security.

2. Three Aspects of Educational Reconstruction: The existing system of education in India needs radical changes if it is to meet the demands of a modernising, democratic and socialistic society. In fact what is needed is a revolution in education which, in its turn, can set in motion the much desired social, economic and cultural revolution necessary for the realisation of the national goals. This revolution has three main aspects:

- internal transformation so as to relate it to the life, needs and aspirations of the nation;
- qualitative improvement so that the standards achieved are adequate, keep continually rising and, at least in a few sectors, become internationally comparable; and
- expansion of educational facilities broadly on the basis of manpower needs and with an accent on equalization of educational opportunities.

II

TRANSFORMATION OF THE CHARACTER OF THE EDUCATIONAL SYSTEM

3. The over-riding priority for the first of these aspects is obvious. The direct link between education, national development and security is valid only if the State provides education of the right type and quality on an adequate scale. Moreover, time is the essence of the problem because with every expansion of the traditional system of education, its unsavoury results are magnified and the transformation of its character becomes more difficult and costly. The most important reform, therefore, is to transform the educational system, to relate it closely to the life and needs of the people and thereby to make it a powerful instrument of social, economic and cultural transformation necessary for the realisation of our national goals. This can be done by :

- relating education to productivity;
- promoting social and national integration;
- giving a value orientation to the entire educational system;
- adopting modern methods of teaching and evaluation; and
- making the educational system elastic and dynamic.

4. **Relating Education to Productivity:** In traditional societies, education generally produces a small class of gentlemen with leisure and culture who do not work with their hands while the masses of the people who produce the national wealth receive no formal education. In the industrialised societies, on the other hand, education is related to productivity so that the educated individual makes a significant contribution to production and the uneducated person becomes a social liability. In such a situation, the development of education leads to an increase in national wealth which, in its turn, provides the means for a still further development of education. Education and productivity thus constitute a rising spiral whose different parts sustain and support one another. In India where the principal tasks are to increase the

standard of living of the people substantially and to spread education to the masses of people, the relating of education to productivity thus becomes a programme of very high priority.

5. From this point of view, the following programmes should be developed:

(1) *Science Education and Research*: Science education needs great emphasis on economic and cultural grounds. By promoting advances in technology, it helps to develop agriculture and industry and increases national wealth. It also loosens the bonds of dogmatism, acts as a powerful dispeller of fear, superstition, fatalism, or passive resignation and strengthens the commitment of man to a fearless search for truth. Science education must therefore become an integral part of all education. The quality of science teaching has also to be improved so as to promote an ever deepening understanding of basic principles, a spirit of free enquiry and experimentation, analytical skills and problem-solving ability. This will make scientific outlook a part of our way of life and culture. Similarly, there is an urgent need to develop scientific research, especially that which has a close bearing on the development of agriculture and industry.

(2) *Work-experience*: Work-experience which may be defined as participation in productive work in school, in the home, in a workshop, on a farm, in a factory or in any other productive situation, should be included as an integral part of all general education. This can help to make the distinction between intellectual and manual work, and the social stratification based on it, less marked. It will make the entry of youth into the world of work and employment easier. It will contribute to economic growth by helping the young to develop insights into productive processes and uses of science and by generating in them respect for manual labour and the habits of hard and responsible work; and finally, it will help social and national integration, partly by strengthening the links between the individual and the community and partly by creating bonds of understanding between the elite and the masses. The nature and quantum of work-experience will naturally have to be adjusted to the age and maturity of the students and will, therefore, vary from one stage or sector of education to another. But it should always be forward-looking and oriented to modern technology.

(3) *Vocational and Professional Education*: The preparation of personnel for the development of agriculture and industry needs high priority. An emphasis should, therefore, be placed on the development of vocational education at the secondary stage and of

professional education in the universities, in the light of manpower needs as estimated from time to time. Programmes for the education of workers in all fields of production, and particularly in agriculture and industry, will have to be developed on a large-scale through part-time, correspondence, sandwich or short intensive courses. The quality of vocational education and its close association with agriculture and industry are even more important and need emphasis.

6. Promoting Social and National Integration : Social and national integration is crucial to the creation of a strong and united nation—the essential pre-condition for all progress. Education can play a significant role in its promotion. The programmes to be developed from this point of view are given in the paragraphs that follow.

7. National Consciousness : The school system should earnestly strive to deepen national consciousness and to inculcate a proper pride in our cultural heritage and a faith and confidence in the great future which we can forge for ourselves. This would be promoted by well-organised teaching of languages and literature, philosophy, religions and history of India and by introducing the 'students' to Indian architecture, sculpture, painting, music, dance and drama. Moreover, every student should be given a course in citizenship, suited to his age and maturity, which would involve a study of the freedom struggle, the constitution, the great human values referred to in its preamble, the nature of the democratic and socialistic society we desire to create, the various short-term and long-term problems facing the country with their tentative solutions and the five-year plans of national development. If rightly oriented, this approach is not incompatible with international understanding and wider loyalties to mankind as a whole which also need emphasis.

8. Social or National Service : Some form of social and national service—these should include community living in school and college and participation in meaningful and challenging programme of community service or national reconstruction—should be made obligatory and should form an integral part of education at all stages. At the primary stage, the programme will take the form of bringing the school closer to the community with an accent on serving the community in suitable ways. More ambitious programmes can be designed at the secondary stage. Every secondary school should be encouraged to develop close ties with its community and adequate programmes of community service in which teachers and students can participate. Where this is not possible, labour and social service camps should be centrally organised for groups of secondary schools and each student

should be required to spend in them not less than 30 days during the lower secondary stage and 20 days during the higher secondary stage. At the university stage, the programme should be alternative to the N.C.C. As at the secondary stage, each institution should be encouraged to develop an intimate relationship with its community and suitable service programmes of its own. But where this is not possible, it should be obligatory on every student, before he takes his first degree, to put in at least 60 days attendance in centrally organised labour and social service camps. Apart from promoting national consciousness, a programme of this type will help to create a sense of social responsibility among the elite and orient them to the service of the masses.

9. **Common School System of Public Education:** The existing segregation in the educational system in which the well-to-do educate their children in a small minority of private schools that charge high fees and maintain good standards while the masses are constrained to send their children to the vast bulk of publicly maintained and free (or charging comparatively lower rates of fees) but poor quality schools, should be brought to an end; and the objective of educational policy should be to evolve a common school system of public education:

- which will be open to all children irrespective of caste, creed, community, religion, economic conditions or social status;
- where access to good education will depend, not on wealth or class, but on talent;
- in which no tuition fee will be charged; and
- which will maintain adequate standards in all schools and provide at least a reasonable proportion of quality institutions so that the average parent would not feel the need to send his children to expensive schools outside the system.

10. As soon as practicable, the neighbourhood school concept which implies that all children in a given neighbourhood shall be required to attend the school of the neighbourhood should be adopted, first at the lower primary and then at the higher primary stage. This sharing of life with the common people is an essential ingredient of good education. Besides, this system will compel the rich, privileged and powerful classes to take an interest in the system of public education and thereby bring about its early improvement.

11. One important aspect of the common school system of education is that all public-supported institutions (this includes all educational institutions except independent or unrecognised schools) should have, irrespective of their managements, certain common characteristics which ensure minimum adequate standards. At present, this is not the case and the educational institutions form a 'caste'-system on the basis of

their managements. The government educational institutions provide probably the best conditions of service to teachers and have assured and comparatively liberal financial resources. But these advantages are largely nullified by over-security of tenure and transferability (which makes them loyal to a cadre rather than to an institution), lack of contact with the community and over-restriction on freedom. The local authority institutions have all these handicaps and one more—unsatisfactory conditions of work and service for teachers due to local politics. The good private schools can attract competent and dedicated teachers, maintain close contact with the community and have freedom. But they lack the financial support which the government schools have. The majority of them, however, suffer from two serious additional handicaps—inadequate conditions of service for teachers and uneducational management. It is necessary to remove these glaring inequalities and create a number of common features in all institutions irrespective of their managements, viz. parity with regard to teachers; common scales of fees; common admission policies which will prevent segregation of classes and ensure admissions to all quality institutions on the basis of merit; involvement with local communities; and freedom for innovation and experimentation.

12. **Inter-State Understanding** : Education should strive to promote greater knowledge, understanding and appreciation of the different parts of India by including their study in the curricula, by the exchange of teachers wherever possible, by the development of fraternal relations between educational institutions in different parts of the country, by the organisation of camps and summer schools on an inter-state basis, and by the maintenance of all-India institutions which will admit students from every part of the country.

13. It is also essential to establish multiple channels of inter-state communication. In every linguistic region, there should be a number of persons who know all the other modern Indian languages and some who are familiar with their literatures and able to contribute to them. For this purpose, there should be adequate arrangements, both in schools and colleges, for teaching different modern Indian languages. In addition, steps should be taken to establish strong departments in some of the modern Indian languages in every university. It may also be advisable to create a small number of special institutes (or advanced centres) for the comparative study of different languages and their linguistic problems. At the B.A. and M.A. levels, it should be possible to combine two modern Indian languages—a reform which will incidentally supply the bilingual persons needed for language teaching in schools and colleges.

14. **Hindi and English** : Both Hindi and English should be developed as link languages. It is only Hindi that can serve as a link language for the vast majority of people. All measures should be adopted to spread it in the non-Hindi areas and special encouragement should be given to non-official efforts in this field. English will be the most important 'library' language and will serve as an additional link language in higher education for academic work and intellectual inter-communication. The study of other 'library' languages, particularly Russian, should be encouraged.

15. **Modern Indian Languages** : All the modern Indian languages should be developed and adopted as media of education at the university stage. A phased programme spread over ten years should be drawn up for the purpose and a high priority should be given to the production of the necessary literature. Due encouragement should be given to the promotion of Urdu which is not regional language and to institutions of higher education in non-Hindi areas which may adopt Hindi as a medium.

16. **Value-Orientation** : The formation of character has always been an important objective of education. Its significance becomes all the greater in a modern society whose health tends to depend more and more on the motivation of individuals who have access to a larger way of life and a greater variety of choices than at any time in the past. Unfortunately, this important objective receives little attention in the present system of education which is mainly oriented to the imparting of knowledge. It has, therefore, become essential to give a value-orientation to the entire system of education and to inculcate moral, social and spiritual values in the rising generation.

17. Some of these essential values have already been indicated e.g., the scientific temper of mind and fearless search after truth which assume great significance in the modern world; respect for manual labour and capacity to put in hard and responsible work which promote productivity; and respect for and proper pride in the past, faith and confidence in the future, national consciousness, sense of social responsibility and spirit of social service which promote social and national integration. Equally essential are values which help to make democracy a way of life and thereby strengthen it as a form of Government, viz., readiness to appreciate the other man's point of view, patient striving to settle disputes through discussion, persuasion, compromise and such other peaceful means, and understanding of respect for the culture of other social groups. The preamble to the Constitution makes us bear loyalty to the basic human values such as the dignity of the individual, freedom, equality and justice. Equally important are

the great values of our tradition, viz., duty without self-involvement, tolerance, an innate love of peace and reverence for all living things. Other values may be cited. But it is not possible, and not even necessary, to enumerate all of them. Three important points, however, may be noted in this context. The first is that the inculcation of these values should permeate the whole curriculum and programme of activities and should be promoted indirectly through the school atmosphere and the personality and behaviour of teachers. Secondly, it is desirable to support this effort by some specific direct instruction also and by reference to the teachings of the great religions. Thirdly, in the attempt to inculcate these values, the traditions of our own culture, re-interpreted and re-evaluated where necessary, should be supplemented by drawing freely upon the liberalising forces that have arisen in other nations e.g., the French Revolution, the philosophy of Marx and the rise of socialism. These balancing influences have a great significance, especially in those areas like equality or social justice where the Indian tradition is comparatively weak.

18. Modern Methods of Teaching and Evaluation : One extremely significant difference between the traditional and modern system of education lies in the methods of teaching and evaluation. In a traditional society, the growth of knowledge as well as social change is very low. The chief aim of education, therefore, is to turn out a finished product, to provide the young with a clear map for their journey in life and to preserve knowledge; and the accent is on memorisation, on an assiduous cultivation of respect for all inherited knowledge and on the assimilative rather than on the critical or creative faculties. The methods of teaching and evaluation in the existing system broadly follow this pattern. In a modern society, however, knowledge grows at a tremendous pace and social change is extremely rapid. The chief aim of education, therefore, is to build up proper interests, attitudes and values rather than to prepare a finished product, to provide the young with a compass rather than with a map for their journey in life, and to increase rather than only to preserve knowledge. It is, therefore, necessary to adopt the modern methods of teaching (along with corresponding techniques of evaluation) which will emphasize the awakening of curiosity, love for learning, habits of self-study, capacity to think and judge for oneself and problem-solving ability. This revolution in teaching and evaluation is the essence of the new educational system we need and will be crucial factor in accelerating the pace of modernisation.

19. The main problem is the discovery and diffusion of new methods of teaching and evaluation which will modernise teaching in the classrooms; and its satisfactory solution will depend upon a

number of factors such as the freedom of teachers and their competence, development of research, maintenance of a general atmosphere of reform, sympathy and support from the administration, satisfactory conditions for work and a generous supply of effective teaching materials. It has also to be remembered that advances in classroom practice never occur on a broad front, with all the teachers and all the schools moving forward in unison. The weaker or average teachers who need security rather than scope for creativity will welcome the support provided by the prescription of detailed syllabi and textbooks, examinations, frequent inspections and well-defined rules. But the work of the best teachers will be crippled if they are not permitted, encouraged and helped to go beyond the departmental prescriptions. The essence of the programme, therefore, is to adopt a flexible and discriminating approach under which the good school and the good teacher are enabled to go ahead while the necessary supports are provided to the weaker institutions or persons to introduce the reform gradually.

20. Two further points need attention in this context. The first is that the pace of the diffusion of new techniques of teaching and evaluation has to be greatly quickened or, in other words, the time-lag between the first adoption of a new system by the progressive institutions and its extension to all the institutions within the system should be reduced to the minimum. Secondly, it would be wrong to assume that this reform in techniques is a 'once and for all time' business: it really needs continuous renewal. By the time a 'progressive' concept is generalised within an educational system, it tends to deteriorate into a new 'orthodoxy' or ceases to have relevance because of the growth of knowledge or social change, and the whole process has to be repeated again with reference to some more progressive techniques. This is the inevitable and perennial problem which education must face.

21. **Elasticity and Dynamism:** This obviously needs an educational system with great elasticity and dynamism, especially in modern societies which are characterised by the explosion of knowledge and rapid social change. In traditional societies, educational systems once devised could remain effective for years, even for centuries. This is no longer possible; and in the world of today where the future shape of things is in some essential ways unpredicable, only one thing is certain: yesterday's educational system will not meet today's and even less so, the needs of tomorrow. This underscores the need to get out of the rigidity of the existing system, to emphasize elasticity and dynamism and to create a built-in mechanism within the educational system itself to enable it to adjust continuously to the changing circumstances.

22. The need for elasticity and dynamism is further strengthened

III

IMPROVEMENT OF QUALITY

24. Side by side with attempts on the above lines to transform the educational system and to bring it in closer relationship with the life, needs and aspirations of the people, steps will also have to be taken to raise the standards of education substantially at all stages and in all sectors, to keep them continually rising and to make them internationally comparable, at least in a few crucial sectors.

25. There has been a general complaint that standards in education have been going down, mainly as a result of the rapid expansion of facilities which has characterized our educational development in the last twenty years. For instance, there has been an increase in the number of sub-standard institutions, due mainly to faulty planning and lack of adequate resources. There has also been some deterioration in teaching standards because, in periods of rapid expansion, the increase in the number of good teachers does not remain proportional to enrolments; and there is some increase in the number of students with sub-standard attainments although a part of it, due to the entry of first generation learners, has its own positive aspects from the point of view of social justice. On the other hand, standards of teaching and research have greatly improved in certain subjects, and particularly in the natural sciences and professions like engineering or medicine. Besides, good institutions and first-rate students are now more numerous and qualitatively as good as ever, if not better. The over-all situation is thus a mixed picture of light and shade; and while it would be wrong to underestimate the significance and urgency of raising standards, it would be equally unfair to ignore entirely the qualitative achievements of the last few years—these can help us to face the task ahead with confidence.

26. The basic issue in educational reconstruction, however, is not to determine whether standards are rising or falling, but to judge them

on the basis of the important criteria of adequacy, dynamism, and international comparability. From this point of view it may be said that the standards of our educational system are often inadequate for the tasks they are required to perform. What is far more important, they would have been much better if even the existing facilities had been intensively utilized. Even where the standards have risen, it has not been possible to keep pace with the developments in industrialized countries with the result that the gap between our standards and theirs has widened in the last twenty years. The objective of educational policy should, therefore, be to emphasize programmes of qualitative improvement so that the standards of the educational system are the best possible to be attained for the level of facilities provided, that they are adequate for the tasks for which they are intended, that they keep on rising with the demand for higher levels of knowledge, skills or character which a modernising society makes and that they are internationally comparable, at least in those key sectors where such comparison is significant.

27. The following are some of the important programmes that should be developed for improving standards in education:

- Intensive utilization of facilities;
- quality, competence and character of teachers;
- improvement of curricula and reorganization of courses;
- improvement of the quality of textbooks and making them available to students through free distribution or an adequate build-up of textbook libraries;
- reform of the examination system;
- proper planning of the location and size of educational institutions;
- provision of the needed facilities on an adequate scale;
- provision of student services;
- discovery and development of talent;
- organising a nation-wide programme of educational improvement;
- development of selected institutions to optimum levels or as pace-setters; and
- improving supervision.

28. **Intensive Utilization of Facilities** : The most significant of all elements on which standards depend is the creation of a climate of dedication and sustained hard work and to utilize the existing facilities intensively. For any self-accelerating process of development, it is essential in the first place to improve efficiency at the existing level of inputs. An addition of inputs, and particularly of time, without maxi-

missing the levels of utilization is more likely to add to the existing waste of scarce resources. This is a luxury which a poor and developing country can ill afford.

29. Several measures will have to be adopted from this point of view. The first would be to reduce the number of casual holidays and the loss of days due to examinations and to increase the number of working days (these should be not less than 236 a year for schools and 216 a year for colleges). The working day should also be longer. The vacations should be more fully utilized by the suitable organization of curricular and other programmes. An understanding should be developed that educational institutions which are like temples of learning should never remain closed—the libraries, laboratories, craft-sheds, etc., should be open all the year and for at least eight hours a day, if not longer. In order to promote habits of self-study, however, the 'contact' periods of formal classroom instruction should form a diminishing proportion of the total work-load of the student—this should be high at the beginning of the educational ladder and become smaller as one goes up. At the undergraduate stage, for instance, the contact periods should be one-third or one-fourth of the total work-load and the post-graduate stage should mostly be a period of self-study. The provision of adequate facilities to secure these objectives (e.g. teachers, study-rooms, libraries, laboratories, production of literature including textbooks in modern Indian languages, etc.) should receive high priority.

30. **Teachers :** Of all the different inputs which influence standards in education and its contribution to national development, the quality, competence and character of teachers are the most important. It is, therefore, necessary to make a continuous and intensive effort to attract to the teaching profession, a significant proportion of talented young men and women who leave the schools and universities every year and to retain them therein as dedicated, enthusiastic and contented workers. For this purpose, it is essential to provide adequate remuneration, promotional opportunities, retirement benefits, opportunities for professional advancement and satisfactory conditions of work and service to teachers at all levels.

31. **Remuneration :** The existing salaries of teachers are generally inadequate and compare unfavourably with those of other government servants. The rise in these during the last fifteen years has been small and a good deal of it has been off-set by the rise in prices. It is therefore necessary to upgrade the remuneration of teachers substantially on the following broad principles:

(1) At the university stage, the salaries of teachers should be

broadly comparable to that of senior government servants. The scales of pay of primary teachers should be comparable to those of public servants with similar qualifications and responsibilities and those of secondary teachers should be suitably interposed between these. The differences in the salaries at the various stages should be reduced to the minimum.

(2) There should be minimum national scales of pay for university and school teachers. The inter-State differences should be reduced to the minimum. Similarly, the intra-State differences should be gradually eliminated, e.g. the principle of parity should be adopted at the school stage for all teachers in government, local authority or private schools; the same scales of pay should be adopted for teachers in different faculties and also for universities and affiliated colleges. The dearness allowance paid to teachers should be equal to that of government servants with the same salary.

(3) The improvement in remuneration should be effectively connected with improvement in qualifications and quality.

(4) Salaries should be reviewed every five years.

(5) Adequate promotional opportunities should be provided at all levels. Posts in higher cadres should be open to teachers who have shown outstanding work and it should be possible for school teachers who show the necessary aptitude and competence to become university teachers. It should also be possible for teachers of outstanding performance to reach the maximum of their scales in shorter than the prescribed periods.

Indicative scales of pay of teachers at the 1965-66 levels of prices are given in Appendix I. Generous central assistance would be needed to enable the States to implement them.

32. Other Benefits : A programme of welfare services to teachers should be developed. It should be contributed to jointly by teachers and government and administered jointly by representatives of teachers and the Department.

The age of retirement should be 60, with provision for extension to 65 in deserving cases.

A uniform system of retirement benefits should be introduced for all public servants and teachers. As a transitional measure, the triple-benefit scheme should be widely adopted, the rates of interest on provident fund deposits should be suitably raised, and the operation of the scheme streamlined.

A scheme should also be drawn up under which a teacher should get a concessional railway pass to any part of India once in five years on payment of a reasonable contribution related to his salary.

Attempts should also be made to increase substantially the residential accommodation available to teachers at all stages, particularly in colleges and universities.

The scheme of national awards to teachers should be expanded and its administration streamlined.

33. Conditions of Work and Service : The conditions of work and service of teachers should be improved and should be similar in government, local authority or private institutions.

The academic freedom of teachers should be adequately protected and they should be free to exercise all civic rights enjoyed by citizens (including participation in elections, subject to the usual conventions and conditions developed in democratic countries, e.g. U.K., France or U.S.A.).

Teachers' organisations should be encouraged and recognised, such recognition entitling them to the right of being consulted on all matters relating to school education, general and professional education of teachers and their salaries and conditions of work and service.

In each State, there should be a Joint Teachers' Council under the chairmanship of the Education Secretary and consisting of representatives of teachers' organisations and officers of the Education Department. Their scope and functions should include all matters relating to conditions of work and service, welfare services and improvement of education. The councils will be advisory. But agreements reached therein should ordinarily be accepted and there should be provision for arbitration in matters of pay and allowances, hours of work and leave.

34. Professional Preparation : The following are some of the major programmes to be developed in the field of professional preparation of teachers which should be regarded as key area in educational reconstruction.

(1) Every primary school teacher should have completed the secondary course and received professional training for two years. Every teacher in a lower secondary school should be a graduate in the subject which he is required to teach and should have received professional training for one year. Teachers at the higher secondary stage should have the same qualifications as junior lecturers of affiliated colleges and should be trained.

The headmaster of all higher primary schools and of the larger lower primary schools (with enrolments of 200 and above) should be trained graduates. Similarly, a certain proportion of teachers at the lower secondary stage should have the same qualifications and scales of pay as those at the higher secondary stage.

To provide all schools with teachers of these or higher qualifications, facilities for general education, particularly at the post-graduate stage, and for professional training would have to be considerably expanded.

(2) The existing system of training school teachers suffers because of isolation from the schools for whom it prepares them. Moreover, the different types of teacher-training institutions function in isolation from one another rather than in close collaboration. These isolations should be broken down by the acceptance of education as an independent discipline and its introduction, as an elective subject, for the first and second degrees; by establishing schools of education in selected universities to develop high level programmes of training, extension and research, especially of an inter-disciplinary nature; by upgrading training institutions to the collegiate standard as resources and teachers become available so that all teacher education is ultimately brought within the purview of universities; by arranging practice-teaching for student-teachers in active collaboration with selected co-operating schools; by developing extension services to schools; by establishing effective alumni organisations and arranging for exchange of staff between training institutions and co-operating schools; and by creating comprehensive training institutions.

(3) The quality of the programmes for the professional preparation of teachers is of great significance; and for raising it to adequate levels, it is essential to organise special courses in subject-knowledge, to vitalize professional studies, to revise and improve curricula, to adopt new and dynamic methods of teaching and evaluation, to improve student-teaching, to improve the quality of teacher-educators through upgrading of qualifications, adoption of better methods of selection and provision of in-service education and to provide the needed facilities on an appropriate scale. Besides, all training institutions should be tuition-free and have liberal provision of scholarships for student-teachers.

(4) There should be adequate provision for in-service education of all teachers.

(5) The universities and the UGC should make appropriate arrangements for giving orientation to newly appointed junior lecturers.

(6) Each State should regularly estimate its requirements of all categories of teachers and prepare a plan for providing all the needed facilities for their general education and professional preparation—both pre-service and in-service. In addition to full-time facilities, such plans should make due provisions for part-

time and correspondence courses.

(7) For planning and development of teacher education, every State should establish a Board of Teacher Education. At the national level, the responsibility for co-ordination and maintenance of standards in teacher education should be assumed by the UGC which should set up a Standing Committee for the purpose in collaboration with the National Council of Educational Research and Training.

35. **School Curricula** : There is an urgent need to upgrade and improve school curricula, to eliminate the large amount of dead wood which now encumbers them, to increase their knowledge—content and to provide adequately for the development of needed skills and the inculcation of right interests, attitudes and values.

36. In this context, two major policies would have to be adopted:

(1) At present, a common curriculum is adopted for all the schools in a State. This rigid arrangement proves detrimental to progress because the prescribed curriculum is generally beyond the competence of weaker institutions while it fails to provide adequate challenges to the better ones. What is needed is an elastic system under which curricula would be realistically related to the quality of leaders and facilities available. This implies the simultaneous prescription of more than one curriculum and the adoption of an elastic administrative system which will encourage schools to introduce innovations.

(2) Similarly, the present practice of introducing improved or advanced curricula simultaneously in all institutions will have to be abandoned because it does not make it possible to prepare adequately by training teachers and providing facilities. It should be open to individual schools to adopt the improved curricula, either as a whole or even in one or more subjects, depending upon the teachers and facilities available; and a carefully planned programme should be drawn up for enabling all schools to do so within a few years. In the traditional period, examinations will have to be conducted in both the curricula.

37. At present, specialisation starts too early—in Class IX of the higher secondary school. It is desirable to provide a common course of general education for all students till they complete the first ten years of school and to begin specialisation only in the higher secondary stages. The broad arrangement of the school curriculum under this proposal will be as given in Appendix II.

38. In framing school curricula, the following guide lines should be followed;

(1) Work-experience and social service should be an integral part of education at all stages.

(2) There need be no differentiation between curricula for boys and girls till the end of Class X, except that options would be available under work-experience and that there may be suitable modifications under physical and health education.

(3) The curricula in science and mathematics should be radically overhauled and modernised.

(4) There is urgent need to reduce the enormous language load now imposed on students. What is needed is a modification of the three-language formula and adoption of modern methods of teaching languages.

(5) The curricula at the lower and higher secondary stages should be prescribed at two levels—ordinary and advanced.

39. Reorganisation of Courses at the University stage : The link between the subjects taken at the school stage and those at the first degree should be less rigid and it should be open to a student to opt for a combination of subjects some of which may not have been taken by him at school. Similarly, combinations of subjects permissible for the first and second degrees should be more elastic than is generally the case at present, both in the arts and in the sciences, because subjects which, in the past, seemed to be far apart now seem to be much closer and at the higher stages, many of the traditional frontiers are breaking down.

40. The courses for the first degree should be of two types—general and special. The general course in which the student takes three subjects at about the same depth should be provided at two levels—pass and honours. The special course should be provided only at the honours level. The universities should provide only for special courses and for general courses at the honours level. The affiliated colleges may provide for all the courses depending upon the availability of teachers and facilities. To economise on costs, however, minimum enrolments needed for general (honours) and special courses should be prescribed.

41. The courses for the master's degree should have three objectives: (1) to prepare for a high level specialization and research; (2) to prepare teachers for schools; and (3) catering for needs of students who are still interested in broad and connected areas and who may attempt specialization later at the Ph.D. level. In addition to the present one subject courses, therefore, combination courses consisting of one major and one of two subsidiary or related subjects should also be instituted.

42. For the Ph.D. degree, the selection of students should be made more rigorous and the evaluation procedures should be improved. The study of a second world language such as Russian or German or French should be obligatory. The eligibility of the guides as well as facilities needed should be carefully specified.

43. It may be desirable to institute a new academic degree between the M.A. or M.Sc. and Ph.D. Similarly, it would be desirable to institute a higher degree than the Ph.D. in universities where it does not exist already.

44. Special efforts need also to be made to promote inter-disciplinary studies, both in the arts and in the sciences. This will need new combinations of subjects, new methods of co-operation between different institutions or departments and new patterns of staffing. In addition, there is need to provide special one-year courses (or of even shorter period) for specialised training in subjects relevant to present scientific, industrial and other needs. Depending on the nature and duration of the course, the admission qualifications would be B.Sc., M.Sc. or first degree in Agriculture or Engineering and those who successfully complete it may be awarded a certificate, diploma or even a degree.

45. As at the school stage, there is an urgent need to revise the existing curricula which are generally outmoded and to revise them from time to time. The programmes of Review Committees developed by the UGC for this purpose should be strengthened and expanded.

46. **School Textbooks :** The provision of textbooks of high quality is an effective programme in raising standards. This will have to be liberally supplemented by teachers' guides and other instructional materials. This should be developed on the following lines:

(1) There should be at least 3 or 4 approved textbooks in each subject for each class and it should be open to the teachers to choose the books best suited to the school. Where a diversity of curricula exists, a similar multiple choice of books should be available for each syllabus.

(2) The preparation of textbooks is a continuous process involving initial production, try-out and finalisation. The machinery created for the production of textbooks should be adequate to follow all these steps for every book and it should be ensured that each textbook is continuously revised and kept up-to-date and that a thorough revision takes place at least in five years, if not oftener.

(3) The writing of good textbooks should be encouraged in as many quarters as possible. Apart from commissioning selected persons to write them, manuscripts, proposals, etc., should be

invited and selected books published by government or approved for use in schools.

(4) Special encouragement should be given to teachers to write books.

(5) Universities and learned societies should give adequate professional recognition to outstanding textbooks.

(6) Liberal policies should be adopted for remunerating the authors especially in the public sectors.

47. State production of textbooks, both at the national and state levels, is an important step in improving the quality of textbooks provided an adequate machinery is developed for the purpose. In each State, there should be an autonomous organization, functioning on commercial basis, for the production of textbooks. It should work in close collaboration with the Education Departments and on a no-profit, no-loss basis. The National Council of Educational Research and Training is preparing textbooks on a national basis. The State Governments should make full use of this programme to improve the quality of their books and adopt them for use in their areas, with changes where necessary. In addition, there is need for an autonomous organisation, functioning on commercial lines, for the production of books at the national level. The scope of this organization will be mainly to bring out books for higher education, on technical and scientific subjects in which separate State-wise efforts will not be advantageous, and in languages like Hindi or Urdu, and its work will have to be co-ordinated with that of the NCERT. These two organizations will function as supplements to the State level organizations.

48. **Textbooks and other literature for Higher Education** : Similarly it is necessary to produce textbooks and other literature needed for higher education, especially in the modern Indian languages. From this point of view,

(1) the scheme for bringing out low-priced and subsidised textbooks in collaboration with the advanced countries like USA, USSR or UK should be expanded and vigorously developed;

(2) it is even more important to give similar subsidies to books written by Indian authors, because a large-scale import of textbooks is bad for intellectual morale, apart from the expense and foreign exchange involved. The country has the talent and other resources required to produce first-rate books but determination and planned efforts are lacking. The Inter-University Board and the UGC should take a lead in the matter ;

(3) the work of scientific terminology should be expedited; and

(4) within five or ten years, most of the books required at the

undergraduate level and a considerable number of those at the post-graduate level, even in science and technology, should be produced within the country. In the preparation of these books, fullest use should, of course, be made of foreign sources.

49. Book Supply to Students : At the primary stage, provision should be made for free supply of textbooks to all students.

In secondary schools and colleges, textbook libraries should be established so that every needy student has free and adequate access to all the textbooks.

There should also be a scheme for grant of subsidies for purchase of books, not necessarily textbooks, to the talented students, say, the top 10 per cent in each class. The scheme may be begun at the university stage and then extended to schools.

50. Reform of the Examination System : Reference has already been made to the adoption of modern methods of teaching. These can be effectively adopted only if corresponding reforms are carried out in the existing system of examinations. The new approach to evaluation should strive to reduce the dominance of external examinations, to improve the written examinations so that they become valid and realistic measures of educational achievement and to devise techniques for measuring those important aspects of the student's growth that cannot be measured by written examinations.

51. At the lower primary stage (Classes I-IV), the teachers should be properly trained for the ungraded system. At the higher primary stages (Classes V-VII), written examinations may be introduced but with weightage on oral tests. Diagnostic testing and cumulative records should be introduced in a simple, phased manner. There should be no external compulsory examination at the primary stage; but common examinations based on standardised and refined tests may be held for the award of scholarships or certificates of merit and for the purpose of identifying talent. The certificate at the end of the primary course should be given by the school and should be accompanied by the cumulative record card in the statement of results of the common examination, if any.

52. At the secondary stage, there should be two public external examinations—the first at the end of Class X and the second at the end of Class XII (this may be at the end of Class XI in the transitional period when the total duration of the school course has not yet been raised to 12 years). These external examinations should be improved by raising the technical competence of paper setters, orienting question papers to objectives other than the mere acquisition of knowledge, improving the nature of questions and adopting scientific

scoring procedures.

53. In addition to the award of classes on an absolute basis, there should also be grading of examination results on a relative basis, e.g. Grade A would mean that the student is in the top 20 per cent of those who have been successful at the examination.

54. It is absolutely essential to reduce the time-lag between the examination and the declaration of the results to a minimum. All measures necessary for this should be adopted, viz., bringing examiners to a central place for valuation of scripts mechanisation; restriction on the number of scripts to be assigned to an examiner; etc.*

55. It is necessary to define national standards at three levels—end of the primary stage (Class VII); end of the lower secondary stage (Class X); and end of the higher secondary stage (Class XII). Each State Government should prescribe the standards to be attained at each of these three levels in view of local conditions and stage of development reached. At the national level, steps should be taken to co-ordinate these standards and to indicate national standards below which no State would ordinarily fall, although some may go well beyond them. There should also be arrangements to evaluate the standards actually attained on a school, district, state and national basis. Steps should also be taken to keep these national standards rising; and from this point of view, projected standards to be reached over a period of development, should also be defined from time to time.

56. A system of internal assessment should be introduced in all educational institutions. It should be comprehensive and evaluate all aspects of student's growth including those not measured by the external examination. It should be descriptive as well as quantified. Its results should not be added mechanically to the marks obtained in external examinations—these should be kept separate and shown side by side in the final certificate. Passes should be required separately in both internal assessment and external examination and divisions gained in them should be declared separately. Every year, a careful review should be made of the correlation between internal and external assessment separately for each institution. This should be one of the points to be taken into consideration for classifying educational institutions and for grants-in-aid. Institutions which tend to over-assess their students persistently should stand to lose in status and finance and in extreme cases, even recognition or affiliation.

*The suggestions in paras 52-54 should apply, *mutatis mutandis*, to external examinations at the University stage also.

57. A suitable organization will have to be created for implementing programmes of examination reform. At the school stage, the NCERT is providing leadership at the national level. An evaluation organization will have to be created in each State for prescribing, maintaining, assessing and revising standards. This organization should be an independent institution, preferably autonomous, and its service should be available to all concerned. Further down, the District Education Officers should be responsible for improving evaluation practices in schools and should have the assistance of at least one specially trained officer. At the university stage, a central organisation for examination reform should be created in the UGC and corresponding organisations should be created in the universities. A beginning may be made with those universities which show interest and initiative and the programme should be extended to others in a phased manner.

58. A beginning should also be made in exempting progressive institutions from the constraints of external examinations.

(1) At the school stage, outstanding institutions should be given the right of assessing their students themselves and holding their own final examination at the end of Class X (or Classes XI and XII) which will be regarded as equivalent to the external examination of the State Board of School Education. The State Board of School Education will issue the certificates to the successful candidates on the recommendation of the schools. A committee set up by the State Board of School Education should develop carefully worked-out criteria for the selection of such schools. They should be permitted to frame their own curricula, prescribe their own textbooks, and conduct their educational activities without external restrictions.

(2) A similar programme should be developed at the university stage also. Outstanding colleges which have shown the capacity to improve themselves markedly should be given the 'autonomous' status. This would involve the power to frame its own rules of admissions, to prescribe its courses of study, to conduct examinations and so on. The parent university's role will be one of general supervision and the actual conferment of the degree. The privilege cannot be conferred once and for all—it will have to be continually earned and deserved—and it should be open to the university, after careful scrutiny of the position, to revoke the autonomous status if the college at any stage begins to deteriorate in its standards. The provision for the recognition of such autonomous colleges be made in the constitution of the universities; and it should be possible

by the end of the fourth five year plan, to bring at least fifty of the best colleges under this category.

59. Size and Planning the Location of Educational Institutions :

There has been, in recent years, a rapid multiplication in the number of small and uneconomic institutions, which also tend to be less efficient at all stages of education. It is necessary to correct this growing weakness and to carefully plan the location of all educational institutions so as to avoid overlapping, duplication or waste and to foster the establishment of bigger, more efficient and economic institutions. At the primary stage, where the over-riding consideration is to take the school as near to the home of the child as practicable, this consideration has obviously less priority; but it becomes more important at the secondary stage and still more so in higher education. It is, therefore, essential to lay down well-considered criteria for the location of educational institutions of all categories and, on their basis, to prepare careful plans of perspective educational development, spread over the next 10-15 years, separately for each district. The procedure for the preparation and periodical revision of such plans should be laid down; and steps should be taken to consolidate the existing position as well as to decide the location of new institutions in accordance with these plans.

60. Provision of Facilities : Owing to rapid expansion at all stages which has generally out-stripped the resources available, the provision of facilities in a very large number of educational institutions is far from satisfactory and very often falls below even the minimum requirements prescribed in the existing regulations of Education Departments and universities. The classes also tend to be overcrowded in a large number of institutions. It is necessary to improve these conditions to make education more effective.

At the school stage, a maximum class-size should be prescribed and rigidly adhered to (50 at the lower primary stage, 45 at the higher primary stage and 40 at the secondary stage); and at the university stage, universities should prescribe detailed regulations for relating enrolments to facilities available and enforce them rigorously.

The provision of facilities like equipment, libraries and laboratories is of vital significance and adequate standards with regard to these have necessarily to be maintained.

The provision of buildings, with adequate sanitary and other arrangements has often been under-rated. These have to be provided by making every effort to cut down costs through the use of locally available materials and observance of the utmost economy, simplicity and austerity in design and construction. The co-operation of the

local community should be enlisted for this purpose, especially at the primary stage.

The programmes of work-experience could also be so designed as to provide some of the equipment and teaching aids needed. Teachers should be trained to devise and prepare low-cost teaching aids from local materials; and in the case of more sophisticated and costly equipment, suitable programmes should be designed for their sharing by a group of institutions in common.

When limitation of resources drives one to hard choices, there may be some relaxation in these matters at the primary stage where claims of expansion have a high priority. But in secondary, and especially in higher education, the minimum requirements of facilities should not be relaxed and, if necessary, the establishment of new institutions and increase in enrolments should be suitably controlled.

61. Student Services : Student services are not merely a welfare activity but constitute an integral part of education and the maintenance of standards depends largely on them. Reference has already been made to the provision of free textbooks. In addition, several other services are needed.

62. At the school stage, for instance, it is necessary to add guidance and counselling services. In primary schools, the programme should include simple measures such as training of teachers in diagnostic testing and problems of individual differences and helping pupils and parents in the choice of further education. At the secondary stage, guidance should help in identification and development of ability and interests of adolescent pupils. A minimum programme for this purpose should be drawn up where a group of institutions would share the services of a counsellor in common and comprehensive guidance programmes would be instituted in selected schools. To the extent possible, provision of school health services (including school meals) should be developed, at least for the needy children; and in deserving cases, provision for supply of clothing should also be made.

63. At the university stage, student services should include the organization of orientation programmes for new students in the beginning of the academic year to facilitate adjustment. Each student should be assigned to an academic adviser (every member of the teaching faculty should be one) who should advise him in planning and organizing his programme of study. Adequate health services (including provision of health education) should be developed in universities and colleges. Guidance and counselling services should be provided, there being at least one counsellor for every thousand students, and combined information and employment centres should be established.

There should be a rich and varied programme of co-curricular activities for students, not only during term time, but also during vacations. Hostel accommodation should be liberally provided (the target being to accommodate 25 per cent of the enrolment at the undergraduate stage and 50 per cent of that at the post-graduate stage) and Day-Study Centres with subsidized or low-cost cafeterias should be provided for about 25 per cent of the non-resident students. In all universities and the bigger colleges, there should be a full-time Dean of Student Welfare to look after the administration of student welfare services.

64. Discovery and Development of Talent : It is necessary to pay adequate attention to individual differences of pupils and students at all stages of education and to devise special programmes to assist the backward as well as the talented child. The latter programme assumes great significance at present because a dearth of competent and trained manpower is felt in nearly every branch of national life and is probably one of the biggest bottlenecks to progress. Native intelligence is generally distributed equitably throughout the population; and if it is duly discovered and developed, our large population can be our most valuable asset.

65. At present, very little of the available talent is discovered and developed. In a majority of homes, the environment is deprivatory. A good deal of the potential talent never enters the primary school or stays long enough therein to reach the higher stages. Some of the best talent in special fields remains undiscovered because of the faulty method of trying to identify gifted children only by the total of marks they obtain in an examination. Besides, the special programmes needed to develop discovered talent are either non-existent or very inadequate.

66. All this has to change and one of the major objectives of the national system of education is to search for and develop talent. The programmes for equalization of educational opportunities which will be discussed in a later section will help materially in this. For instance, the provision of five years of good and effective primary education to every child will cast the net for talent search to the widest extent possible. A large programme of scholarships which will cover at least the top 5-15 per cent of the students at the different stages will ensure that poverty shall not prevent a gifted child from receiving the highest education he deserves. A well organized placement programme will make it possible for the gifted children to study in the best institutions available. In addition to this, it is necessary to introduce enrichment programmes for the brighter students in as many schools as possible and ultimately in every school. A variety of extra-mural programmes

should also be organised for this purpose, either separately by each educational institution or by groups of such institutions in co-operation. These will include summer vacation courses, visits to laboratories, museums, etc., personal contact with teachers at higher levels engaged in types of work for which the students show special ability or interest.

67. While the discovery of talent is a continuous process which should go on at all stages, the secondary stage is most crucial for this purpose. Special programmes of talent search at this level should, therefore, be developed by State Education Departments in collaboration with the universities.

68. In India, a special effort should be made to develop talent in mathematics partly because of the growing significance of mathematics for advancement of science and research and partly because of our own great traditions. Advanced centres of study in mathematics should be established at three or four universities in the next 5-10 years. At least one of the major departments of mathematics in the universities should be encouraged to take an active interest in exploring the possibilities of programmed learning in mathematics for upgrading the knowledge and understanding of school and college teachers. Moreover, one or two special and residential secondary schools for pupils with unusual mathematical ability should be set up in the near future in collaboration with universities having front-rank departments in mathematics and physical sciences. If these and similar programmes are adopted, it would be possible to place India on the 'world map of mathematics' within the next two decades or so.

69. Other areas for the development of such excellence should also be discovered and suitable programmes developed for them.

70. In the case of very gifted children, the State should assume total responsibility for all further education. The rules and regulations regarding courses, duration of studies, admission qualifications, etc., will also have to be suitably relaxed.

71. **A Nation-wide Programme for Improvement of Educational Institutions :** A nation-wide programme for raising standards in all educational institutions should be developed. The main object of the programme should be to create conditions under which each educational institution would strive continually to achieve the best results of which it is capable. Some major programmes to which a reference has already been made, viz., the creation of a climate of sustained hard-work, improving the quality of teachers, the provision of student services and the reorganisation of the system to make it elastic and dynamic will assist in the development of this programme which should be a

responsibility of the 'new supervision'.*

72. From this point of view, the following steps should be taken:

(1) Each institution should be treated as a unit by itself and helped to grow at its own individual pace. For this purpose, it should prepare its own developmental programme of optimum utilization and growth.

(2) The emphasis on these plans should be on motivating human agencies to make their best effort for the improvement of education rather than on increasing physical resources.

(3) The success of the programme will depend upon the degree to which the effort is sustained over a period of time.

(4) Evaluation criteria should be worked out at least for all important categories of educational institutions at two levels—the minimum and optimum. These should be used for self-evaluation by the institution concerned in the first instance and by the department or the university at a later stage as part of their periodical inspections. On the basis of these criteria, the institutions may be classified on a three-point scale:

A—institutions at or above the optimum levels;

B—institutions at or above the minimum level but below the optimum level; and

C—institutions below the minimum level.

(5) An attempt should be made to raise every institution in category C to at least the minimum level. At the same time, institutions which fall in category A should be encouraged to reach further heights of excellence. Special provision should be made in the grant-in-aid codes for both these objectives.

73. At present, the general policy in assisting educational institutions is egalitarian and is based on the principle that 'either everyone moves forward, or none moves'. Under these conditions, what happens in practice almost always is that none moves. In view of the limitations on resources in men and materials, it is essential to adopt a selective approach to the development of educational institutions. As a first step in the programme of improving all educational institutions, therefore, at least 10 per cent of the institutions at all levels should be upgraded to optimum levels (or more) within the next ten years. At the primary stage, these 'quality' institutions should be distributed equitably in all parts of the country. At the secondary stage, at least one good secondary school should be developed in each Community Development Block and in higher education, at least one

*This programme is discussed in the next section.

good college should be developed in every district. At the university level, it would be desirable to develop five or six selected universities to the highest standards possible.*

74. **The New Supervision** : If programmes of the above type are to be adequate, it is necessary to change the existing concept of supervision of schools and colleges by the State Education Departments and Universities. The main feature of the new supervision needed will be its flexibility: it will have to provide support and guidance to the weaker institutions, lay down guide lines of progress for the average ones and give freedom to experiment to the good institutions, Its main function will be not so much to control, as to assist and to provide guidance and extension services.

75. At the school stage, a number of programmes will have to be adopted to create the new supervision. These include:

(1) The Department should be brought closer to schools by adopting the district as the main unit of departmental organisation.

(2) Supervision should be separated from administration in order to enable the District Education Officer and his staff to concentrate on supervision proper, i.e., on improvement on instruction, guidance to teachers, organization of in-service programmes for them and provision of extension service to schools.

(3) The quality of supervising officers should be improved by upgrading their scales of pay and improving selection procedures. They will also have to be provided with adequate training.

(4) The headmasters have an important role to play in supervision. Their selection will have to be carefully done and special training programmes should be devised for them.

76. At present, each school functions in isolation from others and is related directly with the Department. Instead, it would be desirable to group schools together in 'complexes' (or small and manageable groups within easily accessible distance) so that their teachers form small groups which can function in a face to face relationship and which will have good potential for planning and guidance. Each complex would consist of a secondary school with four or five higher primary schools within its immediate neighbourhood, each higher primary school being, in its turn, the centre for four or five lower primary schools in its neighbourhood. For each complex, there should be a Committee of Headmasters of all higher primary schools (with the Headmaster of the Central Secondary School as Chairman) and in each higher primary school, there should be a similar committee

*This special and significant problem will be discussed in detail in a later section.

for all lower primary schools. The schools in the complex would function as a group and their teachers, functioning through the above Committees will be responsible for the planned development of all their institutions.

77. To be effective, adequate powers and responsibilities should be delegated to the school complexes. For instance—

(1) The school complex may be used as a unit for the introduction of better methods of evaluation and for regulating the promotion of children from class to class or from one level of schools to another.

(2) It should be possible to provide certain facilities and equipment, jointly for all the schools in the complex. These will include a projector with a portable generator which can go round from school to school. Similarly, the central high school may have a good laboratory and students from the primary schools in the complex may be brought to it during the vacation or holidays for practical work or demonstration. The central high school may also maintain a circulating library (for students and teachers) from which books could be sent out to schools in the neighbourhood. The facilities of special teachers could also be shared. For instance, it is not possible to appoint separate teachers for physical education or for art in primary schools. But such teachers are appointed on the staff of secondary schools; and it should be possible, by a carefully planned arrangement, to make use of their services to guide the teachers in primary schools and also to spend some time with their students.

(3) The in-service education of teachers in general, and the upgrading of the less qualified teachers in particular, should be an important responsibility of the school complex.

(4) The headmasters of the schools within the complex should meet together and decide on broad principles of development in the light of which each individual school can plan its own programme.

(5) It will be possible to attach one or two leave reserve teachers to the central secondary school; and they can be sent to schools within the complex as and when the need arises.

(6) Selected school complexes can be used for trying out and evaluating new textbooks, teachers' guides and teaching aids.

(7) The school complex may also be authorised to modify, within prescribed limits, and subject to the approval of the District Educational Officer, the usual prescribed curricula and syllabuses.

Not all these powers and responsibilities should be entrusted to every complex at once. A beginning may be made with a few tasks and

their responsibilities should be increased or otherwise on the basis of competence and performance.

78. It will be seen that, under this programme, both the Department and the schools will gain. The District Education Officer will be mainly in touch with each school complex and as far as possible, deal with it as a unit. This will enable him to concentrate his attention on major essentials and the Department to have a fewer inspecting officers at a higher level of competence. The schools will also gain in strength because they will be able to exercise greater freedom under a more elastic administration.

79. It will be advantageous to link colleges to the secondary schools in their neighbourhood for the development of similar programmes. Moreover, the universities and colleges should be encouraged to assist in the improvement of standards in secondary schools by conducting experimental institutions, by providing in-service training to secondary teachers, by producing textbooks and instructional materials and by helping to identify and develop talent.

80. Every affiliating university (the total load upon it should not ordinarily exceed about 30 colleges) should make special efforts to improve its colleges on the lines indicated earlier. The conditions for affiliation prescribed should be reviewed from time to time and made more rigorous. There should be periodical and thorough inspection of all affiliated colleges—preferably once in three years—because affiliation has to be regarded as a privilege to be continuously earned and deserved. In addition, every affiliating university should constitute a Council of Affiliated Colleges. Its functions would be to advise the university on all matters relating to affiliation of colleges, to help in the implementation of policy of the university in this matter, to keep a close contact with the colleges with a view to help in their proper development, and to evaluate periodically whether the standards of colleges are being steadily raised.

IV

MEANS OF EXPANSION AND EQUALIZATION OF EDUCATIONAL OPPORTUNITIES

81. The third aspect of educational reconstruction is to expand educational facilities at all stages with an accent on equalization of educational opportunities.

82. The first programme in this field is *to raise the educational level of the average citizen* and from this point of view, to make adequate provision for primary education and for liquidation of adult illiteracy.

83. **Primary Education :** The directive contained in Article 45 of the Constitution—to provide free and compulsory education for all children till they reach the age of 14 years—is not merely quantitative: it also implies the provision of good education. In view of the large number and cost involved, a practicable programme for realising this goal would have to be spread over about 20 years. The target should be to provide five years of good and effective primary education to all children by 1975-76 and at least seven years of such education by 1985-86.

84. The goal of universal primary education is reached through three phases which generally overlap: universal provision of schools, universal enrolment and universal retention.

(1) Universal provision of schools should be made by the end of the Fourth Plan. A lower primary school should be available within a distance of about a mile from the home of every child and a higher primary school, within about one to three miles.

(2) For universal enrolment, two main programmes are needed. The first is to make the enrolment in Class I (which is extremely heterogeneous at present and includes children of less than five to those above fourteen) homogeneous and to strive to enrol all children in the prescribed age-group (5-6), and none other, in Class I. The second is to eliminate the drop-outs at the end of the lower primary stage (this is about 20 per cent at present) and

to ensure that every child who completes this stage necessarily proceeds to the next. A deliberate and intensive effort spread over about ten years is needed to complete the first programme. It will take a little longer to complete the second.

(3) Universal retention means the elimination of stagnation and wastage and to ensure that every enrolled child progresses regularly from class to class and remains at school till he completes the compulsory course or reaches the upper age prescribed for compulsion. In other words, the average duration of schooling at the primary stage which is now about three years only will have to be increased to seven years or more. This is the most difficult task of all and its solution is economic, cultural and educational. The average parent should be sufficiently well-off to maintain his children at school till they grow up; he must also be educated enough to appreciate the need of such education for his children; and the attracting and retaining power of the schools must also be greatly increased through the various programmes of qualitative improvement described earlier. This may very well take about two decades.

85. This problem of wastage and stagnation at the primary stage is frighteningly large. Of every 100 children that enrol in Class I, only about 50 reach Class IV and only about 35 reach Class VII. About half of the total wastage at the primary stage occurs in Class I. The problem thus needs urgent attention and special efforts. Its solution can be attempted on the following lines :

Class I : (1) A system of pre-registration should be introduced for all students who would be seeking admission to Class I in the following year. During this pre-registration year, an attempt should be made to provide some informal instruction to these children by organising play-centres. This will accustom them to schooling and prepare them for formal instruction.

(2) Pre-school education should be provided to the extent possible; and at any rate, play-way techniques should be adopted in Class I.

(3) The ungraded system should be adopted for Classes I-II and if possible, for Classes I-IV as well.

Classes II-VII : At this level, wastage is mostly due to economic causes—a child (and especially a girl) is withdrawn from school as soon as he or she becomes an economic asset and begins to work at home or earn something outside. A system of part-time education should therefore be adopted on a large scale so that the children can earn and learn,

It should be a regular annual practice to evaluate the extent of stagnation and wastage separately in primary schools and to discuss its causes. This will make the staff of the institution conscious of the problem and assist in developing programmes for its early solution. On the analogy of enrolment or expenditure targets, specific targets for the reduction of wastage and stagnation should be formulated for each Five Year Plan with a view to giving priority to the reduction of these evils and a definite direction to administrative efforts in this field.

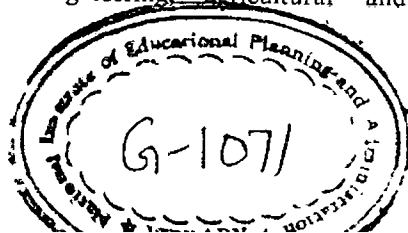
86. Liquidation of Adult Illiteracy : Attempts will have to be made to liquidate adult illiteracy in a phased programme spread over 20 years. During the next ten years, fresh additions to the rank of illiterates may be stopped by making part-time education of one year compulsory for all children in the age-group 11-14 who have not completed the lower primary stage and are not attending schools. In addition, literacy campaigns will have to be organised on both the selective and mass approaches. Under the *selective* approach, programmes should be adopted for specified groups of adults which could be easily identified, controlled and motivated for intensive literacy work. All employers in large farms and commercial, industrial, contracting and other concerns should be made responsible, if necessary by law, for making their employees functionally literate, within a period of three years of their employment. Big industrial plants in the public sector should take the lead immediately and set the pace in this important direction. Every development project should include, as an integral part, a plan for the education of its employees, more especially of those who are illiterate. Literacy programme should constitute an essential ingredient of all schemes launched by Government for economic and social developments. Under *mass* approach, all available educated men and women in the country should be mobilised for raising a force to combat illiteracy and utilize it in a well-planned literacy campaign. In the organization of mass campaign, the teachers and students and all educational institutions should be actively involved. The students in the higher primary, secondary, higher secondary, vocational schools and those in the undergraduate classes of the universities and colleges should be required to teach the adults as a part of compulsory national service programme. Teachers in schools of all types should be required to teach and participate in the campaign. Every educational institution should be transformed into a centre of community life, and should be given responsibility for liquidating illiteracy in a centre of community life, and should be given responsibility for liquidating illiteracy in a specified area,

87. **Education and Manpower Needs :** The enrolment policies in secondary and university education should be based on a combination of four criteria: public demand for such education; full-development of the pool of natural ability; capacity of society to provide educational facilities at required levels of quality; and manpower requirements. The capacity of society to expand educational facilities in terms of real resources sets up minimum targets whereas the maximum targets are suggested by the public demand for secondary and higher education or the need to develop the available pool of native talent. The gap between these high and low targets can be bridged by considerations which emerge from the necessity to relate the output of the educational system to manpower needs. These will indicate the priorities to be adopted, the different courses of study to be developed and the extent to which facilities should be provided in the different courses.

88. This broad recommendation of relating the provision of educational facilities in secondary and higher education to estimated manpower needs has to be understood in the light of some general reservations. Manpower forecasting is not a precise operation because of the large number of imponderables involved. It is, therefore, necessary to make a continuous effort to improve the collection of necessary data and the techniques of forecasting. This should be done regularly by the Central and State Governments. As manpower forecasts are ordinarily expressed in quantitative terms, the expansion of educational facilities tends to receive undue emphasis in translating them into enrolment terms. It is, therefore, essential to emphasize the quality of manpower produced because economic growth can be hindered rather than accelerated if appropriate standards are not maintained. Moreover, manpower needs cannot be the only criterion for regulating the provision of facilities. Before final decisions are taken, its indications will have to be checked with the conclusions drawn from calculations based on other relevant criteria.

89. The following measures will have to be taken to relate the output of the educational system to manpower needs:

(1) *National Level.* Planning at the national level should be done by the Centre in consultation with the States and should cover all sections crucial for national development, where the mobility of trained personnel is or should be high, where it is very costly to set up institutions for training personnel or where the very high level staff required for such institutions is in short supply. These should include engineering, agricultural and medical education,



(2) *State Level.* The Planning of the remaining sectors should be done at the State level by State Governments.

(3) The provision of vocational education—both of school and college standard—will have to be expanded in all areas on a priority basis in keeping with manpower needs.

(4) For enrolments in general education, however, which is under-developed in some areas and over-developed in others, a policy of equalization will have to be adopted.

90. **Selective Admissions :** Expansion of secondary and university education on the basis of present trends—and there is every reason to assume that the tempo of expansion will increase in future—will outstrip even the most optimistic estimates of manpower needs and, apart from the waste of scarce resources involved, aggravate immensely the problems of ‘educated’ unemployment. It is, therefore, necessary to make admissions to higher secondary and university education selective. The emphasis on selection will increase as one goes up the educational ladder—from lower secondary to higher secondary, under-graduate, post-graduate and research levels.

91. At the lower secondary stage, however, which is to be regarded as completion of general education, emphasis should *not* be laid on ‘selection’ in the sense of admitting the ‘fit’ students and weeding out the ‘unfit’. At this level, selection should be oriented more towards ‘testing and guidance’ than towards ‘elimination’. Its main objective should be to enable a student to know his own level of achievement and his potentialities and to decide whether it would be in his interest to leave the school and enter the world of work, or to join a particular vocational course, or to continue in the stream of general education. In other words, ‘selection’ at this stage will be mostly ‘self-selection’ helped through a testing and guidance service. This service should be available to all schools in all areas, irrespective of the level of expansion of secondary education. Whether a system of more rigorous selections is needed or not in a particular area is a matter for local decision and will depend upon the needs for manpower in the area and the level of expansion already reached.

92. The process of selection proper will begin at the higher secondary stage. The places available in higher secondary (or equivalent) schools should be decided upon in relation to facilities available and the schools should select the best candidates from among the eligible applicants. The success of the programme will largely depend upon the extent to which higher secondary education can be vocationalised and students diverted into it, the job opportunities available to those who have completed the lower secondary stage, the provision of part-

time and self-study facilities available to those who desire to study and also work, if possible, and educating public opinion to regard education as a means to and *not* a substitute for work.

93. At the under-graduate stage, the selective procedure would have to be far more rigorous. The following programmes will have to be adopted from this point of view :—

(1) To ensure that adequate standards are maintained, the number of places available in each college or department of a university should be determined with reference to teachers and facilities available. This is largely done at present in the science and professional courses. It is necessary to extend the practice to the courses in arts and commerce as well. At any rate, the university should prescribe the maximum number of students which a college or a department can admit to each of its courses.

(2) As a part of the programme for examination reform, it has been proposed that the leaving certificates issued by the State Boards of School Education will make no reference to a candidate's pass or a failure and will merely give his performance in the different subjects. It will, therefore, be necessary for each university to define the conditions for eligibility for admission to different courses. Ineligible students should be able to re-appear at the examination to improve their record.

(3) Where the number of applicants falls short of the facilities available, the question of selection will not ordinarily arise. But where the number of applicants exceeds the seats available, the institution or department concerned should select the best students from amongst the eligible aspirants for admission.

(4) While the use of examination marks as a major basis for admissions may continue until better selection methods are devised, their arbitrariness or lack of reliability should be compensated, to the extent possible, by making due allowance for the socio-economic handicaps of students, as to relate selection more directly to innate talent. The final selection should also take into consideration such factors as the school record and the proficiency of the student in fields not tested in the examination. This is especially important in border-line cases. In exceptional cases, the universities should have the right and courage to suspend the rules and give admissions to students whose talent has been identified but who may not have been able to fulfil the entrance requirements. The procedure proposed for selecting students on the basis of 'school clusters' for the award of scholarships may also be adopted for making admissions to quality

institutions.

(5) Each university should constitute a Board of University Admissions to advise the university about all matters relating to admissions.

(6) A Central Testing Organization should be set up for the development of appropriate selection procedures for different courses of higher education.

94. At the post-graduate stage, the selections have to be most rigorous because the maintenance of standards at this stage is most crucial. This is a sector with a seed value and can improve or mar the whole field of education. For instance, a dilution of standards at this stage makes it difficult to get good teachers for higher education. This dilutes the standards at the university stage and makes it difficult to get good teachers for secondary schools. In its turn, secondary education is diluted and it becomes difficult to get good teachers for primary schools. The only way to break this vicious circle is to improve the quality of post-graduate education and research. It is also necessary to do so to get personnel of the right quality for the development of agriculture, industry, public administration, and almost all other important sectors of life.

95. **Part-time Education and Private Study** : It is necessary to abandon the present policy of placing an almost exclusive reliance on full-time education, and the two alternative channels of part-time and own-time education should be developed on a larger scale at every stage and in every sector of education and should be given the same status as full-time education. Secondly, adult and continuing education, which is almost totally neglected at present, should be emphasized to a very great extent. Taken together, these two reforms could

—enable those who have not completed a stage of education to complete it and, if they wish, to proceed to the next;

—help every educated person to have further education with or without formally enrolling himself in an educational institution;

—enable a worker to acquire knowledge, ability and vocational skill in order to be a better worker and to improve his chances of earning more; and

—help to refresh the knowledge of the educated person and enable him to keep pace with the new knowledge in the field of his interest.

Programmes of this type, which are being developed even in educationally advanced and affluent countries, cannot be ignored in an under-developed and poor country like India. They will smoothen the transition from school to life, reduce the cost of education to the

State, and bring under the influence of the educational system a large number of persons who desire to educate themselves but cannot do so on economic grounds.

96. Great emphasis has to be laid on the development of correspondence courses, not only for university students, but also for secondary school students, for teachers, for agricultural, industrial and other workers, and for citizens who desire to enrich their lives through the study of subjects of cultural and aesthetic value. Students taking correspondence courses should be provided with opportunities to meet the teachers occasionally; they should be given the status of recognized students, and where possible be attached to some colleges in order to enable them to make use of the library and other facilities.

97. **Enrolments at Different Stages :** The problem of enrolments during the next twenty years will vary from one stage or sector to another; and even in the same stage or sector, it will vary from area to area. The enrolments from 1950 to 1965 (actuals) and from 1966 to 1985 (projected) are given in Appendix III.

(1) At the lower primary stage, enrolments rose from 14 million in 1950 to 37 million in 1965, the average annual rate of growth rising from 4.9 per cent in the first plan to 8.2 per cent in the third. But now we are nearing the saturation point. Very soon, all children would have been enrolled in schools and further increases in enrolment will depend upon the growth of population and the reduction of wastage. The rates of growth of enrolment in future would therefore be far smaller in the future as compared to the past. In fact, when birth-rates fall and stagnation is reduced, the enrolments will actually begin to diminish. By 1985, the total enrolments at this stage ~~will be about 76 million~~ i.e., will be about doubled in a period of 20 years. The task is comparatively easy in States like Madras or Kerala where a good deal has already been done. It is far more difficult and challenging in areas like Madhya Pradesh or Rajasthan. Moreover, this is now mainly a problem of enrolling girls and children from the socially and economically backward classes, particularly the tribals.

(2) At the higher primary stage, the enrolments have been nearly quadrupled in the last 15 years—from about 3 million in 1950 to about 12 million in 1965. In the next two decades, the expansion would have to be of an equal magnitude—the enrolments will again have to be quadrupled, rising from 12 million in 1965 to 48 million in 1985. Barring certain areas like Delhi or Kerala, the task is difficult everywhere. In fact, this is *the* crucial stage in carrying out the directive principle in Article 45 of the

Constitution. As stated earlier, part-time education on a large scale will have to be provided to enrol children from the poorest families. By 1985, such enrolment may be about 20 per cent of the total.

(3) At the lower secondary stage, the position is similar to that at the higher primary stage. The enrolments have been quadrupled in the last 15 years, rising from 1.5 million in 1950 to 6.1 million in 1965 and they are expected to rise further to about 24 million by 1985. The present developments are very uneven and some attempts will have to be made at equalization in realization to local needs.

Two main programmes will have to be emphasized at this stage. The first is a large scale provision of part-time education—this hardly exists at present and should be raised to reach about 20 per cent of the total enrolment by 1985. The second is to increase enrolment in vocational courses which is very low at present and has even decreased from 3.1 per cent of the total in 1950 to 2.7 per cent in 1965. These will have to be increased from 100,000 in 1965 to about 4.8 million (or 20 per cent of the total enrolment) by 1985.

(4) At the higher secondary stage, enrolments have increased five times in the last 15 years, rising from 282,000 in 1950 to 1.4 million in 1965. This tempo of expansion will continue over the next two decades and the enrolments will rise to about 7 million by 1985. This is specially due to the proposal to extend the duration of this stage to two years uniformly in all parts of the country (it is now two years only in Kerala and Uttar Pradesh). If selective admissions are not introduced, this enrolment would be about half as large. The enrolments in vocational courses which now stand at about 40 per cent should be raised to about 50 per cent and facilities for part-time education which hardly exist at present will have to be raised to about 25 per cent of the total enrolment.

(5) At the under-graduate stage, the enrolments have increased from 215,000 in 1950 to one million in 1965 and they are expected to rise to three million by 1985. If selective admissions are not introduced, these may be twice as large. Facilities for part-time education may be raised to about 30 per cent of the total enrolment. The enrolment in professional courses will have to be raised to about a third of the total enrolment.

(6) At the post-graduate stage, a very large expansion of facilities is needed. These have increased from 19,000 in 1950 to 108,000 in 1965. By 1985, they will have to be increased further to 960,000.

This is because a certain proportion of teachers at the lower secondary stage and all members of staff in training institutions for teachers will be expected to have a master's degree. The large expansion at the higher secondary stage and of University education contemplated above will itself need a very large number of teachers with post-graduate and research qualifications. Such persons will also be needed in very large numbers for the development of research, agriculture, industry and the services.

The total enrolments in the educational system have increased from 24 million or a little less than seven per cent of the population in 1950 to 70 million or 14 per cent of the population in 1965. These are expected to rise further to 170 million or 23 per cent of the total population by 1985.

98. **Education and Employment:** In the present educational system, there is no direct link between education and employment and no attempt is made even to establish an indirect link by relating the output of the educational system closely with manpower needs or job opportunities. The recommendation made above will help to establish at least some indirect link between education and employment. It may also be desirable to move towards the provision of a direct link also and to evolve a system, as in USSR, where a graduate receives an offer of appointment along with this degree. This will improve the motivation of the students, give a purpose to their education and, make them feel that the country needs them and offers scholarships for them.

99. A satisfactory solution of the problem cannot, however, be attempted in isolation and will need a concerted attack on three fronts: population control, education and economic development. At present, the labour force cohort (i.e. boys and girls who attain the age of 16 or over and enter the labour force in a given year) is too large—about 2 per cent of the total population—owing to high birth-rates. Its educational attainments are also very meagre—about 60 per cent of the cohort would be illiterate and only about 40 per cent would have completed primary schooling. Of the latter, only about 25 per cent would have received more than 5 years of schooling, about 8 per cent would have completed the secondary school and only about one per cent or so might have received university education. Moreover, the rate of economic development, especially in rural areas is so slow that there are not enough jobs even for half of this cohort. If this situation is to be improved, it is necessary to prepare an integrated plan of development with these objects:

—to reduce the birth rate to about half in a planned programme

of 10-15 years;

—to bring about a very rapid economic development in such a manner that there would be a job for every young man or woman who enters the labour force; and

—to provide such education to the young boys and girls as will qualify them, by having a specific job to do, to participate effectively in the national development programme.

Such plans are needed at the national, State and even district levels. Their preparation and implementation is the responsibility of the Government—Central, State and Local. It is only in the wider perspective of such plans that the problem of education and employment can be successfully solved.

100. Equalization of Educational Opportunities : One of the important social objectives of education is to equalize opportunity enabling the backward or underprivileged classes and individuals to use education as a lever for the improvement of their condition. Perfect equality of educational opportunity is probably unattainable. The essence of the problem is, therefore, to make a continuous attempt to identify factors which tend to create significant forms of inequality and to adopt measures either to eliminate them altogether or at least to reduce them to the minimum. From this point of view 1965. programmes will have to be developed for free education, school education of the handicapped children, reduction of the two decadal 1985. in end of the Fourth Plan and lower secondary education, tion end of the Fifth Plan. Simultaneously, tuition-free education should be extended to all needy and deserving students in higher secondary and university education, the target being to provide free studentships to 20 per cent of the total enrolment.

101. Free education should also imply the provision of free textbooks and writing materials and of free health services (including school meals). Every attempt should be made to keep down the cost of textbooks and, as stated earlier, the provision of textbooks to all students and an improvement in their quality should be regarded as a programme of the highest priority. The other two programmes—school health services and school meals—should be expanded as resources become available.

102. Scholarships and Other Forms of Student Aid : A programme of scholarships and other forms of student aid should be developed on the following lines :—

(1) Scholarships should be provided, at different stages of education, for approximately the following proportion of total enrolment.

<i>Stage</i>	<i>Percentage of total enrolment to be provided with scholarships</i>	
	<i>1975-76</i>	<i>1985-86</i>
Higher, Primary	2.5	5.0
Secondary (General)	5.0	10.0
Secondary (Vocational)	30.0	50.0
Under-graduate (Arts and Commerce)	15.0	25.0
Under-graduate (Science and Professional)	30.0	50.0
Post-graduate	25.0	50.0

(2) Scholarships in higher education should be of three types: National Scholarships; University Scholarships and Loan Scholarships.

The scheme of national scholarships needs expansion and its administration needs some streamlining to expedite the declaration of awards and payments. To introduce a greater egalitarian element in them, half of the scholarships should be awarded, as at present, on the state basis and the remaining should be awarded on a 'school-cluster' basis in which a group of schools with similar socio-economic background of students are grouped into a cluster and the top students from each cluster are given awards.

The national scholarships should be supplemented by a large programme of university and loan scholarships. The latter, which should be administered by a National Loan Scholarships Board, would be of special use for the students in sciences and professional courses where the chances of employment and levels of earning are comparatively better. If a person who holds a loan scholarship joins the teaching profession, one-tenth of the loan should be written off for each year of service.

(3) There should be a national programme for award of scholarships to the best talented students for study abroad. About 500 scholarships should be awarded each year.

(4) The amount of the scholarship should be so regulated as to cover all costs. They should cover tuition fees and other private costs such as book supplies, etc., in the case of those students who stay with their families. For those who have to stay in hostels, additional funds should be provided to cover lodging and boarding expenses.

(5) In order to obtain the best results, it is necessary to combine a scholarship programme with two others: (a) maintenance of an adequate number of quality institutions at every stage and in

every sector; and (b) to develop a placement programme by which the scholarship holders are enabled to get admissions to these quality institutions.

(6) The Government of India should assume the bulk of the responsibility for providing scholarships in higher education. At the school stage, this responsibility should vest in the State Governments who should be assisted for this purpose, during the next ten years, through a centrally-sponsored programme.

(7) The other forms of student aid should also receive attention. These may include an imaginative provision of transport facilities to reduce costs on hostels, scholarships, provision of day-study centres and lodging houses and facilities to earn and learn.

103. Education of the Handicapped Children : A reasonable target in this sector will be to provide, by 1986, education to about 15 per cent of the blind, deaf and orthopaedically handicapped children and to about 5 per cent of the mentally retarded ones. In addition, services on a pilot basis may be developed for other categories of children such as the partially sighted, the speech-handicapped, the aphasic, the brain-injured, and the mentally-disturbed. At least one good institution for the education of the handicapped children should be established in each district and every attempt should be made to develop integrated programmes under which the handicapped children are enabled to study in regular schools. Emphasis is also needed on the training of teachers, research and the co-ordination of efforts of different agencies working in the field.

104. Regional Imbalances : There are wide differences in educational development from one State to another and these become wider still at the district level. A total elimination of these differences is neither possible nor desirable. What is needed, however, is a balancing factor—deliberate and sustained effort to assist the less advanced areas to come up to at least certain minimum levels so that the gap between them and the advanced areas is reduced. For this purpose, the district should be adopted as the basic unit for educational planning and development. At the State level, there should be a deliberate policy of equalisation of educational development in different districts. At the national level, the Government of India should strive to secure such equalization in the different States.

105. Education of Girls : Although the education of girls is advancing at a faster pace than that of boys for some years past, there is still a wide gap between them. In 1965-66, for instance, there were, for every 100 boys enrolled, only 55 girls at the lower primary stage, 35 at the higher primary stage, 26 at the secondary stage, 24 at the

university stage (general education), 23 in vocational courses (school standard) and 14 in professional courses (collegiate standard). It is necessary to bridge this gap at the primary stage and to narrow it further at other stages. As recommended by the National Committee on Women's Education, therefore, the education of women should receive emphasis for some years to come. Special schemes should be prepared for its advancement and the funds required for them should be provided on a priority basis. There should also be a special machinery to look after the education of girls and women, both at the Centre and in the States.

106. Wherever it is administratively possible and there is a public demand, separate institutions should be provided for girls at the secondary and undergraduate stages. Women students should have free access to courses in arts, humanities, science and technology. In addition, attempt should be made at the higher secondary and university stages to provide courses of special interest to girls, e.g. courses in home science, nursing, education, social work or business administration and management.

107. The major problem which needs attention is to find employment for educated women. As the age of marriage continues to rise, full-time employment will have to be provided for almost all young and unmarried women. As the programme of family planning develops, older women whose children have grown up will also need employment opportunities. Suitable measures will have to be adopted to utilise educated women-power and to create part-time employment opportunities which would enable women to look after their homes and also to have a career outside them.

108. Employment of women teachers should be encouraged at all stages and in all sectors of education. Opportunities for part-time employment should be provided for them on a large-scale. To attract women teachers for rural areas, the programme of condensed courses for adult women would have to be expanded and special facilities like rural allowances or residential accommodation will have to be provided.

109. **Education of the Backward Classes** : Special attention should continue to be given to the education of the backward classes. Considerable progress has been made in spreading education among the Scheduled Castes. What is now needed is a much greater expansion of the existing programmes of educational development with an accent on provision of large employment opportunities and eliminating the vestiges of the earlier segregation still left. More energetic action is needed in tackling the difficult problem of educating the nomadic

tribes and Vimochit Jatis, with a special emphasis on the provision of hostels. By far, the concentration of effort will, however, have to be made on ameliorating the social and economic conditions of spreading education among the Scheduled Tribes.

At the primary stage, the provision of facilities will have to be improved and Ashram schools will have to be established in sparsely populated areas. The teachers should be invariably conversant with tribal languages. The medium of education for the first two years of the school should be the tribal language; and during this period, the children should be given oral instruction in the regional language. By the third year, the regional language should become the medium of education. The programmes of the schools should be attuned to tribal life and atmosphere.

At the secondary stage, provision of schools, hostel facilities and scholarships has to be greatly expanded. In higher education, the administration of the scholarships programme will have to be decentralised and made more efficient. Provision of special tuition will have to be made both at the secondary and university stages.

It is essential to develop cadres of persons who will devote themselves to the service of the tribal people. In the early stages, these cadres will consist mostly of non-tribals but an effort has to be made to develop such cadres among the tribals themselves.

SOME SPECIAL PROGRAMMES

110. In addition to the general programmes discussed above which apply to all stages and sectors of education, it is essential to develop some special programmes at the different stages and sectors to complete the radical transformation of education which the country needs. These include:

- Vocationalisation of Secondary Education;
- Centres of Advanced Study and Major Universities; strengthening of the university system as a whole;
- Science and Technology (including the Education of Agricultural Scientists and Engineers);
- Reorganisation of Educational Structures;
- Adult Education;
- Pre-Primary Education;
- Educational Buildings; and
- Educational Research.

These have been discussed in the paragraphs that follow.

111. **Vocationalisation of Secondary Education** : One of the most significant programmes needed is the vocationalisation of secondary education, the target being to provide, by 1986, vocational courses to about 20 per cent of the enrolment at the lower secondary stage and to about 50 per cent of such enrolment at the higher secondary stage. Such facilities have to be closely related to manpower needs. There is thus a need for rigorous and more refined studies for estimating manpower requirements of the personnel, which has received such middle level education, separately from area to area. The establishment of institutions for vocational training, the organisation of new training programmes and the modifications needed in the existing courses and extent of facilities provided should all be linked to such forecasts.

112. Courses for vocational education to be provided at this stage would cover a large number of fields such as agriculture, indus-

try, trade and commerce, medicine and public health, home management, arts and crafts, secretarial work, etc. They should lead to employment, not only in the public and private sectors, but also to self-employment. They should cater to students who have received general education at different levels, e.g., those who have left school before completing the primary or the lower secondary courses. There should be great elasticity in their organisation and there should be development on apprenticeship, part-time, day-release, correspondence, sandwich or short-intensive basis. They should also be developed in a variety of organisations—in educational institutions (general and vocational), in organised forms and industrial establishments, or under a collaboration between these.

113. Agricultural Education : The attempts to provide formal education for agriculture at the primary or lower secondary stage have not been successful so far and they are not likely to succeed until educated persons are attracted to farming through adoption of measures which can make agriculture adequately remunerative and through the provision of at least certain, minimum amenities in rural areas. In the immediate future, therefore, it would be desirable to develop agricultural education at the school stage on the following lines:

(1) All primary and secondary schools not excluding those situated in urban areas, should give an agricultural orientation to their programmes. This does not require a special course in agriculture but an orientation of existing courses in general science, biology, social studies, mathematics, etc., towards the rural environment and the problems involved in the development of agriculture. It would also be advantageous to make agriculture an important part of work-experience at this stage.

(2) No attempt should be made to provide formal education for agriculture before the end of Class X. The best preparation for adopting agriculture as a career in future would be to provide the students, at this stage, with a sound general education, with particular emphasis on mathematics and science.

(3) Formal education for agriculture should begin after Class X and should be provided in Agricultural Polytechnics. These will be multi-purpose institutions providing training for imparting a wide range of skills needed in agriculture and allied fields and their courses would vary in duration from six months to three years. While reasonable flexibility should be allowed in their organization, these courses should be distinctly practical and predominantly terminal in character. They should ordinarily lead to specific employment; but there should be adequate provision for the excep-

tionally brilliant students to take up courses in higher education through further study. The polytechnics should also offer short condensed courses, particularly to the young farmers and the girls and women in rural areas. For reasons of economy and efficiency, they should be large institutions with enrolments of about a thousand students and wherever possible, they should be developed in close association with agricultural universities.

(4) It is true that an increasing number of young men who have completed the primary or secondary course (or have received special education in agricultural polytechnics or universities) will adopt farming as a career as time passes. But for some years to come, the bulk of young men who will choose farming as a career will be persons who have left the school before completing the primary course. For giving the essential agricultural education to these persons, the extension programmes will have to be considerably strengthened and a primary extension centre should be established in each Community Development Block. These centres should be manned by staff with a practical knowledge superior to that of the farmers whom they are educating and successful farmers in the area should be closely associated with them. They should receive strong support and guidance from the extension services of the agricultural universities and should be utilised to provide agricultural education, on a part-time or short-intensive course basis, to young farmers in their neighbourhood.

114. **Education for Industry** : These are four main channels for training semi-skilled and skilled workers and middle level technicians for industry, viz., the Industrial Training Institutes (ITIs), the Junior Technical Schools/Technical High Schools, polytechnics and the facilities created under the Apprenticeship Act. There are, in addition, artisan training centres developed under the community development programme, craft-training centres under the Khadi and Village Industries Commission, trade schools (government and private) and vocational streams in multi-purpose secondary schools. Outside this institutionalised training, a proportion of the present labour force is trained either directly on the job or through the traditional type of father-to-son training. Still, the facilities, particularly those for modern industry are inadequate and very often, qualitatively sub-standard.

115. The Industrial Training Institutes will have to be largely expanded. There should be much larger provision of places for students who have completed primary school and, from this point of view, the possibility of reducing the minimum age of entry still further to 14 should be examined. The training should be production-oriented and

the ITIs should be encouraged to accept some production work from industry and to manufacture material for use in other educational institutions.

116. The junior technical schools should be renamed technical high schools (the word 'junior' serving no purpose) and along with the existing technical high schools, should be unmistakably designed as schools for the training of skilled workers and as much made attractive to students and employers and not be regarded as a poor alternative to general secondary education or as a more costly preparation for entry to polytechnics. The courses offered should be clearly terminal and adjusted through the greater use of available time to meet the requirements of the Apprenticeship Act (the regulations of which should be amended to accept those qualifying from these schools) and lead to trade certificates. The length of courses need not be a standardised three years but may vary from course to course, with a strong emphasis on experimental work and applied sciences in all these schools. Re-designed on these lines and with a reduction in present wastage rates, technical high schools, with their greater emphasis on general education, could be a valuable alternative to ITIs in preparing skilled workers, and to general secondary schools.

117. The polytechnics should be expanded, their wastage rates—these are very high at present—should be reduced, and their programmes should be re-oriented through the adoption of the following measures:

(1) Periodic investigations should be carried out in co-operation with industry, aimed at job analysis and specifications in terms of levels and clusters of skills and responsibilities for technicians. Courses should be revised in the light of these determinations aiming not at producing a lower class engineer, but a technician as such.

(2) The training should be made more practical by requiring each student to have industrial experience particularly in the last year of training. From this point of view, polytechnics would have to be necessarily located in industrial areas only.

(3) The scales of pay of staff should be suitably improved and an enhanced status should be given to the technician in industry and society so that the large shortage of staff now experienced could be eliminated. The teachers should combine a degree from engineering colleges with good practical experience and a greater effort should be made to recruit them from industry. Extensive programmes of summer institutes should be organised for the staff of polytechnics including those recently appointed. In

addition to the training colleges for polytechnic teachers, courses for them should also be organised at the regional colleges of engineering and institutes of technology where the trainees should be given orientation in teaching practice as well as supervised production experience and courses in the basic sciences.

(4) Every polytechnic should have well-equipped workshops and laboratories and use them fully. Locations should be used by students and staff to do production work on hand tools, simple machine tools, small lathes, drilling machines, etc., either for equipping secondary schools or for sale.

(5) A substantial number of technicians will continue to come up and should be encouraged to do so, through industry. Polytechnics can assist in this by offering part-time courses, though greater success would probably follow the wider institution of sandwich type courses, designed in co-operation with industry.

(6) Particular attention should be given to developing courses of special interest to girls in all polytechnics.

(7) Teaching of science and mathematics in polytechnics should be strengthened, particularly in the first two years. Technician courses should include introduction to industrial psychology and management, costing and estimation.

(8) Selected polytechnics should provide post-diploma courses for technicians with some years of experience in industry to qualify as higher level technicians.

118. In addition to courses in agriculture and industry discussed above, there is considerable scope for starting a range of interesting courses in commercial, clerical, scientific and industrial trades, and in areas of special interest to girls. This should be fully exploited.

119. Products of Technical High Schools, Junior Technical Schools, Polytechnics, as well as the products of other vocational courses at this stage, should be encouraged to set up small enterprises of their own or to join together with others in creating small-scale workshops, industries and services needed in the community.

120. **Centres of Advanced Study and Major Universities** : One of the most pressing and vital needs of Indian Education is to have a plan of action which provides deliberately for a continuously accelerating improvement of the standard of higher education. This can be done only by deploying the available resources, specially men of talent, so as to produce the maximum 'multiplier effect' in quality. For this purpose, it is necessary to concentrate, to begin with, on developing a small number (we cannot do more) of centres, institutions and universities of the highest possible excellence—each sufficiently big to

exceed a certain 'critical mass' so as to be self-accelerating in the pursuit of excellence. These will serve to breed more excellence and act as quality 'seeds' for developing new centres of excellence. This is probably the shortest and most effective way to bring about a general and all round improvement of standards in higher education in the first instance and in due course, in all other sectors of education and in all walks of life.

121. An important programme to be strengthened and expanded from this point of view is that of the Centres of Advanced Study. The universities should be helped, through proper concentration of resources, to develop excellence in selected departments and ultimately to raise them to the level of Centres of Advanced Study.

The original selection of a University Department as a Centre should be made on the basis of the quality and extent of work already done by it, its reputation for good teaching, its contribution to research and its potentiality for further development. The process of selection should be so devised that it will win the confidence of the universities and the academic community generally. If necessary, the Department may first be regarded as an 'Aspirant Centre' and a special grant-in-aid may be given to it for five years in the first instance for recruitment of staff and acquisition of equipment and books. This may be renewed for a second five-year period if the progress is satisfactory.

The privilege of being a Centre of Advanced Study should be continually earned and deserved. Each Centre should have, say, once in three to five years, a Visiting Committee consisting of outstanding Indian and where possible and necessary, foreign experts who will conduct a review and appraisal of the accomplishments of the Centre.

122. But this is not enough. If the best results are to be obtained, it is necessary to add one more dimension to the scheme of Centres of Advanced Study and to create, in five or six selected universities, clusters of Centres of Advanced Study in related disciplines which support and strengthen one another. This alone can provide the essential climate for the development of first-rate post-graduate work and research and for attaining standards, at least in a few crucial sectors, which could be internationally comparable.

123. Steps should be taken, in each of these universities, to provide a critical mass of students and teachers of outstanding capacity and promise, and first-rate facilities and equipment.

(1) Each university should be assigned a number of scholarships, both at the undergraduate and post-graduate stages, so that it can have enough talented students. About half of these scholarships should be given to students from outside the area of the

centre.

(2) The search for staff of these centres, instead of being limited to the State concerned or to the region, should be made nationwide and, in a sense, world-wide. The selection procedures should be elastic. Where necessary, the selected candidates should be offered advanced increments and assured of research opportunities, opportunities for study leave and the possibility to achieve professional excellence. There should be room for flexibility in promotions and funds should be available to provide more attractive salaries to persons of exceptional promise and performance.

(3) It will be equally essential to provide adequate facilities and satisfactory conditions of work for this critical mass of gifted students and teachers. The programme need not necessarily be very costly, especially if the emphasis is on austerity and utility rather than on ostentation and luxury.

124-A. An important contribution which the Centres of Advanced Study and the major universities can make to the development of higher education is to provide good teachers. The following steps should be taken from this point of view:

(1) Every effort should be made to induce talented students from the universities to join the teaching profession and to place a majority of them in universities and colleges other than their own. The UGC should maintain a central clearing-house agency for the purpose.

(2) With a view to facilitating the recruitment of outstanding persons to the teaching profession, the UGC should sponsor a scheme for instituting a number of fellowships for the purpose. The fellowships should be at three levels—lecturers, readers and professors. Outstanding persons, who may otherwise be lost to the profession, should be granted these fellowships and seconded to work in suitable departments of universities, care being taken to see that they are appointed against permanent posts as early as possible.

(3) The universities and affiliated colleges should be encouraged, so far as possible, to pre-select their new teachers and attach them to the major universities or Centres of Advanced Study for some time with a view to enabling them to seek professional advancement.

124-B. This process of extending the standards of the major universities should be fostered by the UGC by adopting, amongst others, the following devices:

(1) Strong inter-university links should be formed among members

of the Centres of Advanced Study, members of Aspirant Centres, leading university departments and outstanding affiliated colleges, in particular fields of research.

(2) Invitations may be given to promising scholars and scientists from other universities or affiliated colleges to do research and to conduct seminars at the Centres of Advanced Study.

125. New Universities and Colleges : This attempt to create a few centres of excellence is central to the entire programme of improving standards in higher education. But to obtain the best results possible and to extend the excellence generated in these centres to other institutions of higher education, two supporting measures are needed; viz., exercise of restraint in the opening of new universities and colleges; and strengthening of the university system as a whole.

126. The establishment of new universities needs great intellectual talent, a large investment of funds and a good deal of administrative competence—all of which are in short supply and it would be wrong to create a situation where these would be dispersed even more thinly. It is therefore suggested that, in establishing new universities, the following principles should be kept in view:

(1) The establishment of a new university can be justified only if it leads to a substantial improvement in standards and in the output and level of research.

(2) No new university should be started unless the agreement of the UGC is obtained and adequate provision of funds is made.

(3) Adequate preparation should be made before a new university is established. A university centre, i.e., a co-operative effort on behalf of colleges to provide facilities for post graduate education should be developed as a first step towards the establishment of a university; and a new university should not ordinarily be established in a place where a university centre has not been in operation for some time. Secondly, a time of two to three years should be allowed to elapse between the appointment of the first vice-chancellor and the direct commencement of the university's work, the vice-chancellor being assisted by a Planning Board during the period.

127. A similar policy of restraint has to be adopted with regard to the affiliated colleges. At present, a rapid multiplication of weak colleges is taking place. About 30 per cent of the colleges have a strength of less than 100. Such small institutions are not only un-economic, they also tend to be inefficient. It is therefore necessary, as stated earlier, to plan their location carefully. Moreover, there is no escape from the position that the State must either find all the resour-

ces needed to equip new colleges adequately or restrict the number of institutions to be started to the resources available. In the present shortage of resources of all types, material and human, the latter is the only rational policy.

128. **Strengthening of the Universities** : Since the health and well-being of society depends largely upon the proper functioning of the universities, it is necessary to give high priority to strengthening the university system as a whole. This alone will enable the Indian universities to discharge their heavy responsibilities adequately. Some of the important programmes to be developed from this point of view have been indicated below.

129. **University Autonomy** : First and foremost, it is necessary to strengthen university autonomy, the case for which rests on the fundamental consideration that only an autonomous institution, free from the regimentation of ideas and pressure of party or power politics, can pursue truth fearlessly and build up, in its teachers and students, habits of independent thinking and free enquiry which are so essential to the development of a free society. The proper sphere of this autonomy lies in three fields: (1) selection of students; (2) appointment and promotion of teachers; and (3) determination of courses of study, methods of teaching, and the selection of areas and problems of research. It is true that this autonomy is to be interpreted in the larger context of their obligation and responsibility to the nation and to mankind as a whole. But this merely underscores the need to develop attitudes and conventions which will do justice to university autonomy as well as to the valid claims of society.

130. India has a good tradition of university autonomy. But there is need to strengthen and consolidate it. This need eternal vigilance on the part of all concerned, especially the U.G.C. and the I.U.B. Moreover, such autonomy cannot descend as a 'gift' from above: it has to be continually earned and deserved by the universities themselves.

131. **University Finances** : University autonomy cannot become real and effective unless the State Governments deal with the universities with understanding and imagination and place adequate financial resources at their disposal and unless the rules and regulations to operate the grants-in-aid are simplified with a view to ensuring speed and efficiency. Probably it would be best to reorganise the State grants to universities on the basis of a system of block grants (See Appendix IV for details). In addition, the universities should also be immune from direct public accountability. Their day-to-day administration or financial matters should not be made either a subject

of public controversy or an issue in party politics; and to this end, it would be desirable not to place their accounts before Parliament or the State Legislatures. There exists a provision in the Acts of Central Universities that their audited accounts should be published in the Gazette of India and presented to the Visitor along with the audit report. This procedure gives the Government the necessary opportunity for exercising such corrective and supervisory control over these universities on behalf of the Visitor as is needed, without unduly interfering with their fiscal and administrative freedom. A similar procedure could be adopted for the State Universities where it does not already exist.

132. Role and Appointment of the Vice-Chancellor : The person who is expected, above all, to embody the spirit of academic freedom and the principles of good management in a university is the Vice-Chancellor. He stands for the commitment of the university to scholarship and pursuit of truth and can ensure that the executive wing of the university is used to assist the academic community in all its activities. The Vice-Chancellor should, as a rule, be a distinguished educationist or eminent scholar with adequate administrative experience.

While the choice of the Vice-Chancellor should eventually be left to the university concerned, for the time being, the present 'Delhi' pattern, or some variation of it may be adopted. The members of the Selection Committee for the Vice-Chancellor should be known for their eminence and integrity and there should be no objection to one of them being connected with the university but he should not be a paid employee of the university.

The term of office of the Vice-Chancellor should be five years and he should not be appointed for more than two terms in the same university.

Adequate powers should be vested in the Vice-Chancellor for the efficient working of the university.

133. Autonomy within a University : An important aspect of university autonomy is a reorganisation of university government on democratic principles to make them communities of teachers and students in a real sense and to permit a free flow of ideas from below. The following measures should be adopted for this purpose:

(1) Wider administrative and financial powers should be delegated to the departments of a university which are its main operational units on the academic side. Each department should have a Committee of Management under the chairmanship of the head of the department consisting of all professors and some readers and

lecturers elected by the staff. It should meet at least once a term to discuss the academic programme of the departments, the requirements of laboratories and library, the delegation of duties and related matters, and its proceedings should be circulated to the Faculty and the Academic Council. It will be necessary to provide adequate secretariat assistance to each department for the purpose. In the case of large science departments, it may be advisable to appoint a deputy to the head of the department from amongst the professors or readers. He should be assigned specific functions by the head of the department with the approval of the University Executive Council.

(2) It is essential to recognize the freedom and autonomy of colleges and to provide, subject to certain conditions and safeguards, greater freedom to them so as to result ultimately in the creation of autonomous institutions.

(3) The university should be visualized as an integrated community in which the teachers are, as it were 'senior scholars', the students are 'junior scholars' and the administration is a service agency to both. All attempts at polarization between teachers, students or administration should be avoided. Joint committees of teachers and students should be established in each department and in every college to serve as a forum for the discussion and, where possible, for the solution of common problems and difficulties. The head of the institution—the Vice-Chancellor or the Principal—should be kept fully in touch with the work of the committees. In addition, there should be a central committee for the purpose under the chairmanship of the head of the institution consisting of some representatives of staff and students. A machinery of this type, if properly worked, would at least be able to find an adequate solution to the large number of small, easily remediable problems which, for want of due attention at the proper moment, often simmer into bitterness and later engender serious breaches of discipline. It will also create better relations and develop a new sense of confidence between the teachers and the students. As a further step to encourage students to take part in university government and to make them realize their responsibilities in the day-to-day functioning of the university, the representatives of the student community (including under-graduate students) should be associated with the Academic Councils and the Courts of the Universities.

134. **Legislation for Universities :** In order to give effect to the proposals for strengthening the universities and reorganizing their administration which have been made in this Report and in the Report

of the 'Model Act' Committee, there is an urgent need to review the existing legislation for universities in India and to amend it to the extent necessary. The Education Ministry and the UGC should take initiative in this matter; and a suitable machinery for tripartite consultations between the UGC, Ministry of Education, State Governments and the University concerned should be evolved for this purpose. All new legislation regarding universities should be undertaken only after such tripartite consultations.

135. Considerable administrative difficulties have been created and the public image of the universities has often been tarnished by law suits which have been filed in the courts against the universities. While the fundamental rights of citizens need protection, it is also necessary to maintain university autonomy and to enhance their prestige. In particular, it is necessary to develop appropriate conventions for the grant of interim stay orders and the speedy disposal of cases. The Government of India may, therefore, approach the Supreme Court with a request to review the trends seen in the recent decisions of the cases relating to universities and educational institutions and to examine the desirability and possibility of framing a suitable policy in this behalf which would help the maintenance of university autonomy and the proper development of higher education.

136. **The University Grants Commission :** As at present organized, higher education is divided into a number of sectors and compartments with little communication and inter-action between them. The UGC deals with about sixty universities and pays them development grants out of funds placed at its disposal by the Government of India. Besides these, there are agricultural universities drawing their inspiration from the concept of the U.S. land-grant colleges, which, in the last century, made an important contribution to American professional education and farm productivity. The special feature of the agricultural universities is the stress that is laid on combining agricultural education, extension and research. These universities have also established departments in natural and social sciences to support agricultural education and research. There are also the institutes of technology at Kharagpur, Kanpur, Delhi, Bombay and Madras which, under an Act of Parliament, have the status of 'institutions of national importance' and enjoy the power to confer degrees. Assistance from the Central funds to agricultural universities, as also to the IITs, is not channelled through the UGC but provided by the Ministry of Agriculture and the Ministry of Education respectively. Central assistance for medical education is given by the Ministry of Health. It may also be mentioned that teacher education is the responsibility

of the universities only in a limited measure. This fragmentation unaccompanied by any effort at effective co-ordination is a serious weakness in our present pattern of higher education.

137. It is desirable that the UGC should represent the entire spectrum of higher education. It should be professionally concerned and adequately equipped to deal with all its problems. This is necessary for various reasons but principally because, in the contemporary world, no discipline can develop fully in isolation from the mainstream of academic life. Agriculture, technology, medical sciences and teaching will all be the richer for being part of this broad stream and by being concerned with the problems and needs of one another. This applies most directly to teaching, but will apply more and more to research also. The real break-through in the future will most likely be made at the frontiers where different disciplines meet. It may also be incidentally pointed out that this position is in consonance with the existing Act of the UGC which is designed to embrace all branches of higher education. It is, therefore, necessary to support the recommendation of the Committee of the Members of the Parliament on Higher Education that all higher education should be regarded as an integrated whole, that professional education cannot be completely divorced from general education, and that it is essential to bring all higher education, including agriculture, engineering and medicine, within the purview of the UGC. This is the ultimate direction in which we should move.

138. If, for some reason, it is not possible to take this step immediately, it would be desirable to set up separate UGC-type organizations for agricultural, engineering and medical education and to create a machinery that would effectively co-ordinate them. The UGC-type organizations need not necessarily be set up by law and the purpose in view will be served if they are established as autonomous organizations. They should be composed of teachers and scientists of eminence in their fields and should be small and compact bodies so that they can meet frequently and work expeditiously. The head of such an organization should himself be a scholar or scientist of repute in the field. They should function more or less like the UGC, i.e., lump-sum grants should be placed at their disposal by the Ministries concerned and they should have the freedom to distribute them to the universities in relation to their needs and programmes of development. For purposes of co-ordination, there should be a certain overlapping membership between the UGC and the UGC-type organisations recommended above. In addition, the chairmen of all these four bodies should meet periodically to review and co-ordinate their

programmes.

139. The Committee of Members of Parliament on Higher Education had expressed the view that it would be undesirable to appoint a person, who is holding a full-time appointment as vice-chancellor as a member of the UGC. This proposal has been accepted by Government and the necessary changes are being made in the UGC Act. This is not a happy proposal; and it is not proper that the UGC should be deprived of the services of an eminent person merely on the ground that he happens to be a vice-chancellor. The UGC should consist of 12-15 members. Of these, not more than one-third should be officials of Government. At least one-third should be from the universities and a vice-chancellor should not be ruled out from inclusion. The remaining should be eminent educationists. In order to provide a greater degree of rotation, the term of office of members may be reduced from the present six to three years with not more than one rotation.

140. In view of the magnitude and importance of the problems facing the Commission, considerably larger funds will have to be made available to enable it to deal effectively with them. An appraisal of development schemes undertaken by the Commission and those suggested in this Report indicates that the available allocation under the fourth plan would not be commensurate with the basic developmental needs of universities and colleges. The present allocations would, therefore, have to be substantially increased. In particular, larger allocations to UGC are needed for

- development of Centres of Advanced Study and major universities;
- developing Schools of Education in a few selected universities;
- developing post-graduate education and research;
- provision of maintenance grants to State universities;
- establishment of the Central Testing Organization; and
- development of literature in modern Indian languages.

141. The University Grants Commission Act, 1956 should also be reviewed in the light of the recommendations made in this report and suitably amended. It would be desirable if the State Governments are consulted before this new legislation is finalised.

142. **Science and Technology** : The development of science leads to advances in technology which, in their turn, lead to increases in production (S.T.P.). This does not mean that a country would automatically become prosperous by merely ploughing in more money into education and research. In fact it could also have the opposite effect. What the relationship implies is that science education and research of the right type and geared to national needs will lead to a

rise in productivity. The increased productivity in its turn would provide more resources for science and research, and thus will be generated the rising (S.T.P.) spiral of science, technology and productivity. A major programme in education reconstruction would, therefore, be to strengthen the teaching of science and to promote scientific research, especially for development of agriculture and industry. In particular, energetic and imaginative steps are required to draw a reasonable proportion of the best talent available in the country to go in for advanced study and research in agricultural sciences.

143. **Science Education :** Post-graduate enrolments in science and mathematics need to be expanded several-fold in the coming decades to meet the demands of rapidly expanding secondary and higher education and of research and industry. There is also an urgent need to relate the development of science and technology in a State to its potential for economic growth and to reduce the existing regional imbalances in the development of science education.

144. It is necessary to develop a number of Centres of Advanced Study in science and mathematics. Their academic staff should be of the highest quality and should include, wherever possible, some persons of international standing. There should also be a number of visiting professorships on contract appointments for a period of two to three years. The UGC should constitute an all-India committee to make offers of such visiting professorships. Some of the internationally famous Indian scientists at present working abroad as well as distinguished foreign scientists could be invited under this scheme.

145. There is an urgent need to revise drastically the under-graduate and post-graduate curricula in science. It is also necessary to stress the extreme importance of field work and environmental studies in biological and earth sciences and to maintain a proper balance between experimental and theoretical aspects in the physical science departments.

146. There should be well-equipped workshops in every college and university department of science. Students should be encouraged to learn the use of workshop tools and get acquainted with some of the essential laboratory techniques and practices. The workshops should work far more intensively than is usually the case. It would be desirable to permit their use by industrial workers enrolled for evening and correspondence courses.

147. Inter-disciplinary studies will have to be actively encouraged. It will be a great advantage if major departments in life sciences

have on their academic staff a small number of physical scientists (including Mathematicians) specially selected for their interest in the study of biological phenomenon. Similarly, science departments, especially physics and mathematics, will benefit immensely by close association with engineers with research interest.

148. **Scientific Research** : There is an urgent need to step up quickly our effort in research and development.

149. Deliberate support and encouragement of science education and research in universities should become a fundamental goal of our national policy. The creative scientists and engineers of a country are one of its most precious and scarce assets and should find place in the universities where their multiplier effect is generally the maximum. The grants for research work should be increased and by the end of the decade, something like a quarter of the total university expenditure should be devoted to research.

150. The universities which ordinarily emphasize pure (basic) research have also an important role to play even in applied research and development. Similarly, the technological institutions need not rule out pure research but should emphasize applied and industrial research.

151. Left to itself, there is nearly always a tendency for research to become 'purer and purer'. It is necessary to counteract this tendency because of the significance of applied research in a developing country like India. This necessarily implies close and intimate co-operation between research in the universities and engineering institutions, usefully employing not only engineers but pure science investigators. The problems of industrial research need to be jointly tackled on a co-operative basis by staff in the universities and engineering institutions as well as those working in industry. There could and should be a movement of staff from universities to industry and vice-versa. Consultancy and advisory positions and even directorships in industrial concerns can be offered to academic people. In West Germany, industry has put up research institutions in collaboration with some of the university departments and they work together closely on many projects. This is worthwhile implementing in India wherever conditions and facilities are favourable.

152. At present, there are a number of institutions in the country which devote almost their entire effort on university type of research but function outside the university system. A serious effort should be made to bring them within the universities, or at any rate, to link them intimately with universities.

153. **National Science Policy** : It is most important for the

governmental authorities at the highest level to ensure that on major scientific issues they can get advice which is as impartial and objective as it possibly can be. For this, it is essential to have an advisory body which should have on it, besides heads of major agencies concerned with scientific research, persons who have a high standing and regard to their professions and who inspire general confidence—a proportion of these members should be distinguished young scientists in their thirties. The number of such persons should not be less than the agency heads. They could be from the universities, research institutions (government or non-government), industry and public life. The advisory body should also have on it not only scientists and technologists but also economists and social scientists and persons with experience of industry and management. The Scientific Advisory Committee to the Cabinet should be reorganized on the above lines and provided with an effective secretariat and with a professional component adequate to its tasks. The Committee should be in a position to assess the broad scientific needs of the country including the universities and advise government on scientific policy and allocation of total resources between different sectors of scientific activities. It should also review continuously the national research policy situation.

154. Agricultural Universities and Colleges : At least one Agricultural University should be established in each State. In doing so, the possibility of converting one of the existing universities into an Agricultural University should be kept in view.

Beginning with traditional agricultural specialities, these universities should gradually extend their scope of studies to cover a wide range of specialised courses to suit the needs of the day. One of their distinctive features should be post-graduate work for which facilities will have to be largely expanded, particularly in the hitherto neglected areas. What is even more important, the highest standards would have to be maintained at this stage.

There should be clear delineation of responsibility between agricultural universities and the State Departments of Agriculture, the former taking over all research, education and extension programmes.

155. While some experimentation should be allowed, it is essential that all agricultural universities should conform to some important principles such as being single-campus universities without any affiliated colleges. They should have a liberal provision of scholarships (to cover at least 25 per cent of the students) to attract talented students, well-managed farms of adequate size and the same status and scales of pay for their staff as in the other universities,

156. Universities other than agricultural universities having agricultural colleges or faculties or wishing to introduce agricultural studies should be given all assistance and their work in the field of agriculture should be adequately co-ordinated with that of the agricultural universities.

157. An academic relationship between some of the agricultural universities and the IITs should be developed. This could take the form, among other things, of an exchange of students and staff and arranging common programmes of study and research. The possibility of organising strong agricultural faculties in one or two of the IITs and in some leading universities should be explored.

158. In view of the proposed expansion of agricultural universities, new agricultural colleges should not be established and efforts should be concentrated on improving standards in existing colleges. Quinquennial inspections of agricultural colleges should be undertaken jointly by ICAR and UGC and such colleges as do not come up to requisite standards may be converted into institutions offering courses at a higher technician level or disaffiliated.

159. **Education of Engineers :** During the last ten years, considerable progress has been made in the training of engineers. Further development is now needed in four directions: (1) greater co-ordination with industry; (2) improvement of quality in engineering institutions with special emphasis on practical work or production experience; (3) consolidation and strengthening of existing institutions; and (4) introducing greater equalisation of opportunity in admissions to engineering institutions, particularly the IITs.

160. Industry should be encouraged to start training schemes and a Central scheme of subsidy to industrial concerns providing training facilities may be usefully started. In a public sector undertaking, a separate budget provision for this work could be made. Suitable qualified training officers should be posted to industry or groups of industries taking trainees. Representatives of industry and educational institutions should meet regularly to review training programmes.

Engineering research should be directed more and more to problems of industry and larger numbers of those taking post-graduate courses should be sponsored by industry qualifying, where necessary, through sessions spread over a number of years. It should also be permissible to obtain a Doctorate degree on the basis of professional development and design work within industry.

161. The quality of the education for engineers has to be greatly improved on the following lines ;

(1) The teaching of basic sciences should be strengthened, specially for those of our engineers who are concerned with research and development and participate in an even anticipate technological advances.

(2) Practical experience for full-time students should be introduced from the third year of the course. The programmes should be carefully prepared in co-operation with industry and properly supervised and completed before the end of the course. Whenever possible, sandwich type of courses should be adopted. Workshop practices can be made more production-oriented both in the prescribed courses and in vacation periods, with staff and students undertaking research and design of equipment needed in other educational institutions. Groups of students can be set production problems, taken from industry, as project work. Teachers and university departments should be encouraged to undertake consultancy for industry and should themselves work in industry in vacation periods. Frequent professional contacts in summer institutes between teachers and industry should be organized. Graduates should be required to have at least one year's practical experience in industry before proceeding to post-graduate work.

(3) In order to relate the courses—degree and diploma—to the varying types of engineers and technicians required by industry it is necessary to change the traditional pattern and diversify courses in the existing and new institutions to produce the needed technical personnel. The precise subject fields in which courses are to be conducted should be subject to constant review to suit the changing needs of industry for specialist technical personnel.

(4) For colleges and institutes of technology to become more concerned with the needs of industry, research design projects sponsored either by industry or government should be made a part of the curriculum.

(5) Syllabus should be continually revised in consultation with expert committees, carefully avoiding any rigid conformity. There is no need for uniformity in the duration of post-graduate courses—these may vary from one to two years as required by the selected field.

162. In the immediate future, emphasis should be placed, not on the establishment of new institutions or large scale expansion, but on (a) the expansion of existing institutions to optimum size, (b) the elimination of wastage rates and improvement in the quality of instruction, and (c) provision of part-time courses for those in employment.

163. There is need to introduce a greater equalization of opportu-

nity in admission to engineering colleges and particularly to IITs. Instead of basing these admissions, therefore, solely on the examination marks, an attempt should be made to provide more than one channel or procedure of selection as an experimental measure and to compare their validity in the light of the actual performance of selected students.

164. Reorganisation of the Educational Structure : Considerable attention has been given in the past to the reorganisation of the educational structure and to the evolution of a common pattern of school and college classes in all parts of the country. This has obviously a lower priority than the programmes of qualitative improvement referred to earlier. There is, however, no doubt that certain changes in the educational structure will be of great help to be carried out as an integral part of the comprehensive programme of educational reconstruction proposed to be implemented in the immediate future.

165. The new educational structure should consist of
- one to three years of pre-school education;
 - a ten-year period of general education which may be subdivided into a primary stage of 7-8 years (a lower primary stage of 4 or 5 years and a higher primary stage of 3 or 2 years) and lower secondary stage of 3 or 2 years of general education or one to three years of vocational education (the enrolment in vocational courses being raised to 20 per cent of the total);
 - a higher secondary stage of two years of general education or one to three years of vocational education; and
 - a higher education stage having a course of three years or more for the first degree and followed by courses of varying durations for the second or research degrees.

The age of admission to Class I should ordinarily be not less than 4 or 6. There is no need to prescribe age-limits at other points in the system.

166. This reorganisation of the educational structure will have to be attempted simultaneously on three fronts. The first is to introduce the 10-year school in all parts of the country. This presents no problems in Kerala, Mysore and Uttar Pradesh. In States where the existing duration of the course leading to the School Leaving Certificate Examination is 11 or 12 years (Andhra Pradesh, Assam, Nagaland, Bihar, Gujarat, Madras, Maharashtra and Orissa), the curriculum would have to be suitably compressed to cover a period of 10 years for adopting the new structure. In the remaining States, where the higher secondary pattern as recommended by the Secondary Education Commission has been adopted on a fairly large-scale, the following measures would have to be taken:

(1) There is no need to upgrade every secondary school to the higher secondary stage. Only the bigger and more efficient high schools—about one-fourth of the total number—should be upgraded. The status of all the existing higher secondary schools should be reviewed from this point of view and, if necessary, those that do not deserve the higher secondary status should be reconverted into high schools.

(2) The system of 'streaming' should be abandoned and there should be, as a rule, no integrated course of studies beginning with Class IV. Classes IX and X should form part of the first ten years of general education and Class XI should form part of the higher secondary stage and provide for specialised study in different subjects.

(3) There should be an external public examination at the end of Class X and another at the end of Class XI. Students studying in 10-year High Schools will have to appear for both these external examinations. But this need not be obligatory for students of the higher secondary schools. They can take one final examination at the end of Class XI or take it in two parts at the end of Classes X and XI.

167. The second front in the programme is to develop the higher secondary stage on the following lines:

(1) The stage should be declared as being a part of the school stage and it should be placed uniformly under the administrative control of the State Boards of School Education which are proposed to be constituted.

(2) At present, this stage will have to be located mostly in colleges and only to a very small extent in selected schools. An effort should, however, be made to raise more and more schools to the higher secondary status and to enable the universities and the bigger colleges, especially the post-graduate ones, to shed these classes off. Ultimately about 25 per cent of the secondary schools and 30 per cent of the colleges only may have this stage.

(3) The duration of this stage will have to be uniformly raised to two years in a phased programme spread over about 10-20 years.

168. At the university stage, the main problem is in Uttar Pradesh where the duration of the first degree course in arts, science and commerce will have to be raised to three years. A phased programme spread over 15-20 years will have to be drawn up for this purpose.

169. In all this reorganisation, the objective of raising standards should be continually kept in view. For example, it should be possible, through better inputs and more intensive utilization of facilities, to

raise the standard reached at the end of the 10-year school to that reached at the higher secondary stage of 11 years at present. This will result in raising substantially the standard at the first degree level, especially when the duration of the higher secondary stage is uniformly raised to two years. In fact, this standard should be almost equal to that of the second degree at present and lead the student to the threshold of research. This will make our standards more generally comparable in the international context because, at present, it is our second degree in arts, science and commerce that is broadly equal to the first degree of important universities in the advanced countries.

170. **Adult Education :** Reference has already been made to the programme for the liquidation of illiteracy and to the development of large-scale programmes of part-time and own-time education at all stages and in all sectors of education. These latter will have to be developed, not only for persons preparing for formal examinations, but also for all those who desire to improve their knowledge and skills without reference to any examination. Of special significance is the need to provide further education for workers to enable them to improve their knowledge and skills, to widen their horizon in life and to improve their careers. There is also need to expand and improve the library services on the broad pattern recommended by the Advisory Committee on Libraries.

171. Great emphasis should be laid on the development of closer relations between the universities and their community because, in the modern world, service to society has become a very important function of the universities. This will also be essential for the development of the national service programme on which such great stress has been laid. The universities should function as agencies for a deep and a careful study of local, regional and national problems to which government, public and private organisations may turn for advice and guidance. They should also develop courses and programmes, not only for their examination, but for the in-service education of professional workers in all walks of life. They may design programmes of general education for adults with a view to creating a unity of outlook and faith between the masses and the intelligentsia. At present, the vast bulk of the rural leadership is at an educational level which will not enable them to enter universities. But it is on its outlook—progressive or otherwise—that the future of the country so largely depends. It is necessary that the universities design special extension programmes to give this leadership an understanding of and an insight into the crucial problems of national development.

172. For these and other programmes, the universities should have an adequate machinery for planning, implementation and evaluation. There should be a Board of Adult Education under the Chairmanship of the Vice-Chancellor, which should lay down policies and plan programmes and direct their operation jointly by the various departments of the university. There should be adequate staff for implementing the programmes approved by the Board. We also feel that some universities in the country should develop full departments of adult education. The purpose of such departments should be to train specialists and teachers in the field of adult education, to undertake and to guide research in all problems connected with adult education in co-operation with other relevant departments such as education, sociology and psychology.

173. **Pre-Primary Education** : Pre-primary education should receive greater attention, the target being to enrol 5 per cent of the age-group (3-5) by 1966. Less costly methods of expanding such education—either on the Madras pattern or as children's play centres attached to primary schools—need emphasis.

The State should maintain development centres for pre-primary education at the State and district levels, train pre-primary teachers, conduct research and prepare literature. The conduct of pre-primary schools should, by and large, be left to private enterprise which may be given financial assistance by the State on the basis of equalization.

174. **Educational Buildings** : The problem of school buildings needs urgent attention. The policy on this subject has often been ambivalent: while the ideal of the 'school under the tree' has been often eulogised in practice, the construction of costly structure where luxury and ostentation dominate has also continued to dominate building plans. What is needed is a realistic approach to provide more funds, to cut down cost and to expedite construction. The following action programme is suggested :

(1) *Larger Allocations* : In view of the present unsatisfactory position regarding school buildings, it is necessary to take steps to clear the backlog of unconstructed school buildings as well as to provide additional buildings for new enrolment.

(2) Allocations for construction of school buildings should be increased in the Central and State budgets, and community resources mobilised on the basis of equalization. Loans and grants-in-aid should be given on a liberal basis to private schools for the construction of buildings.

(3) *Reduction of Costs* : The norms and guidance already available for spacing and planning of school buildings should be put

into practice.

(4) In view of the shortage of traditional building material and the cost involved, well-designed and constructed kachcha structures should be accepted as part of the school system.

(5) *Buildings in Rural Areas* : In rural areas, efforts should be made to encourage local initiative and contribution in putting up school buildings. The 'nucleus' approach suggested by the Ministry of Education is recommended for general adoption.

(6) *Buildings in Urban Areas* : Economy in these buildings should be effected by using locally available materials, omission of certain finishes, and acceptance of a lower standard of construction. Temporary structures may be used wherever possible, and improved techniques of construction may be adopted in putting up pucca buildings.

(7) *Expeditious Construction* : In order to accelerate provision of school buildings, construction in rural areas may be entrusted to local communities or village panchayats, and in urban areas, municipalities and corporations may be utilized for the purpose.

(8) In order to supervise and guide the programme of construction of school buildings and introduce improved techniques, an Educational Buildings Development Group should be set up in each State within the Public Works Department and working in close association with the Education Department. These groups will standardise details of construction in the region so as to make possible the mass production of the components on a factory scale. A similar Building Development Group should be set up at the Centre to co-ordinate the work of the State groups.

(9) To avoid delays in the construction of government buildings, a separate unit of the PWD should be set up for the execution of education building programmes. At a latter stage, an Education Building Consortia may be set up to exploit the advantages of industrialized buildings.

(10) The economy measures worked out by the Educational Building Development Group should be made known to private institutions and grants-in-aid given on the basis of upper cost limits.

175. Educational Research : Urgent steps have to be taken to develop educational research and relate it effectively to the formulation of educational policies and improvement of education. From this point of view, the following programmes need to be developed.

(1) A documentation centre and a national clearing house in educational research should be developed at the NCERT.

(2) Educational research has to be developed in teams and in inter-

disciplinary fields. While all training colleges should do some research, the restriction of educational research to training colleges has hampered its growth. It will be the special responsibility of Schools of Education to develop educational research in a big way in collaboration with other departments.

(3) It is desirable to set up a National Academy of Education consisting of eminent educationists, broadly on the lines of the National Institute of Science, to promote educational thought and research. This should essentially be a non-official, professional body. But it should receive adequate financial support from the Government of India.

(4) An Education Research Council should be set up in the Ministry of Education for the promotion of research.

(5) There is urgent need to provide good specialised training for research work and services for data-processing, statistical analysis and consultation.

(6) It would be the responsibility of the NCERT at the national level and the State Institutes of Education at the State level to bridge the serious gap between the educational research and current school practices. A similar role will have to be played by the UGC in the field of higher education.

(7) The total expenditure on educational research has to be increased considerably, the goal being to devote about one per cent of the State expenditure on education to it.

VI

EDUCATIONAL PLANNING, ADMINISTRATION AND FINANCE.

176. If the immense programme of educational reconstruction outlined in the preceding sections is to be effectively implemented, it is necessary

—to improve educational planning;

—to reorganise the entire administrative structure, both at the Centre and in the States;

—to provide the maximum possible resources for development of education and to make the most economical and efficient use of whatever resources are available; and

—to evolve a programme of vigorous and sustained implementation.

In this concluding section, these programmes will be discussed in some detail.

177. **Educational Planning** : To be successful, educational planning needs the following:—

(1) The framework of a broad national policy in education within which, subject to local adjustments and variations, the State Governments and local authorities can formulate and implement their own plans;

(2) A comprehensive long-term plan of perspective development of education spread over about 20 years against whose background the quinquennial and annual plans of educational development can be formulated in the light of the resources available.

It will be possible to evolve both the broad outline of a national policy in education and a comprehensive long-term plan of perspective development of education on the basis of the recommendations made by the Education Commission.

178. At present, there is a trend to take more and more decisions—crucial or otherwise—at the national and State levels and there is

hardly any effective machinery for educational planning at the local level. This sometimes results in disregard of local conditions and curb local or State initiative. It is, therefore, necessary to adopt a system of priorities at three different levels—national, state and local. Programmes of national significance such as provision of good and effective primary education to every child, vocationalization of secondary education, post-graduate education and research, or education for agriculture and industry may be regarded as national priorities in the sense that the decisions regarding them would have to be taken by the Centre in consultation with the States and, once they are taken, it should be obligatory on every State to implement them effectively and vigorously. In several other matters, and these would form the bulk of the decisions to be made, a system of State-level priorities should be adopted, i.e., each State may be left to make its own best decision in view of local conditions. These would include problems such as making secondary education free of tuition fees and in such matters, no attempt at a national uniformity need be made. In certain other matters, as for instance, in the provision of amenities in schools, and determining the type and scale of non-teacher costs, a system of local priorities may be adopted. The State Governments may create appropriate authorities at the district and school levels and leave them free to take decisions within the powers delegated, and best suited to the local conditions. There should be no need to expect any uniformity in these matters between one district and another and even between one school and another.

179. A review of the first three five year plans in the different States and at the national level highlights the need to improve the planning techniques in some directions. These have been indicated below:

(1) *Over-emphasis on Enrolment and Expenditure* : There has been an over-emphasis on achievement of targets in enrolments and expenditure. It is true that expansion was badly needed and expansion will have to continue. But an over-emphasis on this aspect leads to the neglect of the still more important aspect of quality. Similarly, an over-emphasis on expenditure targets tends to distort priorities and often leads to wastage. There is thus a need to take a more comprehensive view of the problem and to evolve a broader pattern of goals, especially those relating to qualitative improvement.

(2) *The Need for Concentration of Effort and Adoption of a Selective Approach* : Throughout the first three plans, the general policy has been to do something in every sector or for every pro-

gramme with the result that the meagre resources available were spread thinly over a very large area. This policy involves considerable wastage. It has, therefore, now become important to concentrate on a few crucial programmes such as improvement of the quality of teachers, development of agricultural education, provision of good and effective primary education for all children, liquidation of illiteracy, vocationalization of secondary education, establishment of major universities, expansion and improvement of post-graduate education, increase in the number of scholarships and the development of about ten percent of institutions at each stage to optimum levels of quality.

(3) *Emphasis on Programmes Which Need Talent and Hard Work* : The present emphasis on reaching expenditure targets tends to place a premium on programmes where it is easy to incur expenditure, e.g., construction of buildings or expansion of enrolments. This is unfortunate because there are a number of programmes which call for determined effort, organization, talent and hard work rather than large financial investment. The following are some examples of such programmes:

- production of literature in the modern Indian languages needed for their adoption as media of education at the university stage;
- educational research;
- examination reform;
- preparation of school textbooks and teaching and learning materials;
- in-service education of teachers and officers of the Education Departments;
- improving techniques of supervision;
- improving contact with the local communities and parents;
- providing enrichment programmes and guidance to gifted students and some special assistance to retarded or backward ones.

A number of instances of this type can be cited. What is important to note is that, in the existing situation where the financial resources are limited, it is programmes of this type that need far greater emphasis than those which need heavy financial investment.

180. Controlling Agencies : A major problem in educational administration is to define properly the roles of Central, State and local Governments in education. The State Governments, on whom its responsibility of education rests, naturally occupy key position. But this needs two modifications. On the one hand, they will have to share responsibilities for school education with local authorities because the day-to-day administration of schools, which should be

as close to the local communities as possible, is preferably be delegated, with adequate resources, to duly constituted local authorities at the district level. In higher education, on the other hand, they will have to share the responsibilities with the universities, the UGC and the Government of India. In other words,

—school education is predominantly a local-State partnership; and

—higher education is a Centre-State partnership.

It is this basic principle that should guide the evolution of that delicate balance between centralization and decentralization which educational planning and administration need.

181. The Role of the Central Government : In a vast country like India, the position given to education in the Constitution is probably the best because it provides for a Central leadership of a stimulating but non-coercive character. The greatest need of the day is for elasticity and freedom to experiment which the present arrangements can promote. An intensive effort should, therefore, be made to exploit fully the existing provisions of the Constitution for the development of education and evolution of a national educational policy.

182. Besides institutions in the scientific and technical sector, it is also necessary for the Centre to establish institutions specializing in social sciences including pedagogical sciences and the humanities. These should be established in close association with the universities and be an integral part of the university system.

183. The Centre can also develop education in the Union Territories, particularly in Delhi, to serve as a pace-setter for the other areas.

184. The Centre should scout for talent in different fields and make the services of the best people in the country available to the State Governments for advice and assistance in all matters.

185. The Centre should assume a still larger financial responsibility for education through the expansion of the Central and Centrally-sponsored sectors. It is through this mechanism that the Centre will be able to stimulate and guide educational developments in the national interest in the crucial sectors.

Some of the programmes recommended for inclusion in the Central sector are:

- (1) expansion of the programme of national scholarships;
- (2) expansion of the programmes of scholarships for the backward classes;
- (3) allocations to the UGC;

(4) development of agricultural, engineering and medical education; and

(5) promotion of educational research.

Some of the programmes recommended for inclusion in the Centrally-sponsored sector are:

(1) training of teachers;

(2) introduction of vocational education at the secondary stage;

(3) development of the State Institute of Education;

(4) production of literature for children and teachers; and

(5) development of quality institutions at the school stage.

As a rule, the State Governments should be consulted for including programmes in the Centrally-sponsored sector. These programmes should be of two types: (1) programmes which need adoption of a common policy in all parts of the country; and (2) programmes which vary from State to State. The funds available for the Central sector should be equally divided between these two categories of programmes. The funds for the first category should be given to the States in the form of earmarked grants. Those for the second category should be given as a block grants on some equitable basis, and the States should be free, with the approval of the Government of India, to use them for any scheme which is significant and urgent in their local situation.

186. The Role of Local Authorities : As an ultimate objective, it is essential that schools and their local communities should be intimately associated in the educational programmes. It is, therefore, desirable to entrust the administration of schools to local authorities, subject to the condition that the local authorities would provide good administration and promote the cause of education. This should be regarded as privilege and should be withdrawn if this basic condition is violated. In particular, adequate safeguards should be provided in all association of local authorities with education, to ensure that teachers are not harassed and that they do not get involved in local factions and politics.

187. School Committees : The immediate goal in this respect—and this should be adopted immediately as a national policy in all the States—is to associate the local communities, namely, village panchayats in rural areas and the municipalities in urban areas, with their local schools and to make them responsible for the provision of all non-teacher costs with the help, where necessary, of a suitable grant-in-aid from the States. This may be done by establishing a school Committee to look after every government or local authority school (or all the government and local authority schools in a given area, such as a

village panchayat or a town municipality). Half of the members of these committees should be elected by the local authority in charge of the areas—village panchayat or municipality—and the remaining should be persons interested in education, nominated by the District School Boards. The functions of these Committees will include, among other things, the following:

- (a) Responsibility for securing proper accommodation and construction and maintenance of school buildings, school gardens, children's parks and playgrounds;
- (b) provision of equipment;
- (c) distribution of books and writing materials to children;
- (d) grant of uniforms, scholarships and prizes;
- (e) enforcement of compulsory education within the area;
- (f) assisting in the organization of extra-curricular activities and in building up close relationship between the schools and the community;
- (g) provision of mid-day meals;
- (h) securing residential accommodation for teachers; and
- (i) generally taking all such measures as will help in improving school education within the area.

Each school committee should have a fund of its own for the proper discharge of its responsibilities. This fund, which may be designated as the School Fund, should consist of (a) amounts placed at its disposal by the municipality or the village panchayat in the area; (b) donations and contributions voluntarily made by the parents and local community from time to time; and (c) a grant-in-aid given by the District School Board to stimulate local collections under (a) and (b) on some basis of equalization, i.e., a larger grant-in-aid being given to the poor areas while the richer ones may get a smaller one or none. The entire proceeds of the fund should be locally available for the development of such services in the schools as would supplement the effort made by the District School Board.

All School Committees will not be equally efficient. The system to be designated should, therefore, be elastic. School Committees that are functioning well should be given more powers and more funds. The powers of those which are not working efficiently may be curtailed.

188. District and Municipal School Boards: The ultimate goal should be the establishment, at the district level, of a competent local education authority which may be designated as the District School Board and which would be in charge of all education in the district below the university level. This should also be accepted as national policy. Each State should be free to move from the immediate to

the ultimate goal in accordance with its own plans and programmes. Some broad suggestions regarding the constitution of these Boards are given below :

(1) The jurisdiction of the District School Board should cover the entire area of the district with one exception, namely the big municipalities in the district. The Zila Parishad, municipalities, educationists and concerned departments should be represented on it. A senior officer of the State Government should be the whole-time Secretary of this Board, which should be provided with the necessary administrative and supervisory staff.

(2) The functions of this Board would cover all school education in the district—general as well as vocational. It will directly administer all government and local authority schools within the district, and it will also remain in charge of giving grants-in-aid to all private institutions in the district in accordance with the rules framed by the State Government for the purpose.

(3) It should be the responsibility of the Board to prepare plans for the development of school education within the District and it should also be the principal agency within the district to develop school education, the finances and guidance required for the purpose being provided by the State Government and the State Education Department.

(4) In big towns with a population of one lakh or more, it would be desirable to establish Municipal School Boards on the above lines since these would be viable administrative units. The composition, powers and responsibilities of these Boards should be similar to those of the district school boards.

(5) Each school board will maintain an education fund. The Zila Parishads (or Municipalities) will approve the budget of the school boards. They will also raise the resources expected of them and credit them to the School Board. In all day-to-day administration, the School Board would be autonomous. The same relation would hold good between a Municipal School Board and its Municipality.

(6) Recruitments and transfers will be done by a special committee consisting of the Chairman of the Board, its Secretary and the District Education Officer, subject to rules framed by the State Government, the general policy being to reduce transfers to the minimum and to allow teachers to develop loyalties to individual institutions.

(7) It may be better in some cases not to burden the school boards with full administrative responsibility all at once. Powers may

be conferred on a board as it becomes experienced and shows its capacity to exercise them.

The proposed system of grant-in-aid to District and Municipal School Boards has been detailed in Appendix IV.

189. The Role of Private Enterprise : In free India where the State has accepted full responsibility for providing education to the people, the role of private enterprise can only be minor and limited. There are a large number of private institutions which are well managed and which maintain good standards. The State should encourage such institutions and make the best possible use of this assistance which comes from the private sector. The bulk of private institutions, however, are of poor quality and many of them are ill-managed. These should be given adequate opportunity and assistance to improve. If they fail to do so, they should either be taken over or eliminated.

190. It may be desirable to introduce legislation for the compulsory registration of all private educational institutions and it should be made an offence to conduct an unregistered institution. Powers should also be vested in State Governments to remove any educational institution from the register if stipulated conditions are not fulfilled. No grant-in-aid should be given to proprietary institutions.

191*.

192. Reorganisation of Educational Administration at the National Level : Another major problem in educational administration is the needed reorganisation at the national level which mainly includes the Ministry of Education, the UGC, and the NCERT. The proposals regarding the UGC have been discussed already. Those relating to the other two have been given in the next and the following paragraphs.

193. Ministry of Education :

(1) The present practice of giving the post of Secretary to the Government of India to an eminent educationist, who is designated as Educational Adviser to the Government of India and Secretary to the Ministry of Education should continue. This should be a selection post and the selection should be made from amongst all persons available, official, non-official, IES, university men, etc. It should also be a tenure post given only for six years in the first instance, with an extension in exceptional cases for three or four years but not renewable further.

(2) About half the posts of additional or joint secretaries should be filled by promotion from officers of the Ministry or seconded from

*191. The proposed system of grant-in-aid to private educational institution is given in Appendix IV.

the State Education Departments and the remaining half should be filled from eminent educationists and outstanding teachers in universities and schools. The term of each tenure should be five years to be renewable at the most for a second term.

(3) The clearing house function of the Ministry of Education needs considerable strengthening and expansion. A well-staffed Division should be created to perform this function on an adequate scale.

(4) It is a major responsibility of the Ministry of Education to maintain a good statistical service for educational planning, policy making and evaluation. In order that this function may be discharged properly, the Statistical Section of the Ministry should be reorganised and strengthened. The statistical units of the State Departments of Education will have to be reorganised and strengthened likewise.

194. National Council of Educational Research and Training :

(1) The NCERT should be developed as the principal technical agency functioning at the national level for the improvement of school education and operating through and in collaboration with the National Board of School Education, State Departments of Education and their technical agencies like the State Institutes of Education.

(2) The governing body of the NCERT should have an all-India character with a majority of non-officials. It is desirable to have at least one outstanding teacher from secondary schools and a person specialising in primary education, preferably a primary teacher.

(3) The Council should have its own full-time Director and Joint Director. The Director should be an eminent educationist in the field and his status should be that of a Vice-Chancellor. His term of office should be five years, renewable for not more than one term. The Joint Director would be needed mainly for the purpose of assisting the Director and relieving him of routine administrative matters.

(4) The Central Institute of Education under the NCERT should be transferred to the Delhi University.

(5) It is desirable that there should be considerable interchange and flow of officers from the NCERT to the State Education Departments and *vice versa*.

(6) The campus of the NCERT should be developed speedily and the building programme given the highest priority.

195. Reorganisation of Educational Administration at the State

Level : Great emphasis has to be laid on the reorganisation of educational administration at the State level because education is essentially a State responsibility and only that reconstruction of education is generally possible which the administration is prepared to welcome and promote. Urgent steps have therefore to be taken to ensure

—that the organisation of the administrative machinery at the level is of the right type;

—that the personnel of the State Education Department is competent and adequate, that it has grasp of and is committed to the proposed programmes of educational reconstruction and that it is enabled to develop that change in attitudes which can bring in the elastic and dynamic system visualised in the Report; and that the procedures of the Departments are suitably modified and kept constantly under review to meet the fast changing needs.

Regarding the first, the principal changes proposed are the establishment of a State Council of Education, the passing of a comprehensive Education Act in each State, the reorganisation of the Directorate as a policy making and co-ordinating agency unencumbered with administrative details, the adoption of the District as the principal agency to deal with the schools and making it the hub of administrative and supervisory authority, and the establishment of certain State level organisation for special functions.

Regarding the second, the main proposals are the constitution of the IES, the reorganisation of the State Educational services, and adequate arrangements for the training of the departmental staff at the State and national levels.

Regarding the third, the emphasis is on research, periodical review, comparative studies, and inter-state contacts.

The details of the proposals on these subjects are given in the paragraphs that follow.

196. Educational Administration at the State Level:

(1) It is desirable to create, at the State level, some machinery to co-ordinate educational programmes which are spread over a number of departments and take a unified view for purposes of planning and development.

(2) A statutory Council of Education should be created at the State level with the State Minister for Education as the Chairman. Its membership should include representatives of universities in the State, all Directors in charge of different sectors of education and some eminent educationists. Its principal functions would be to advise the State Government on all matters relating to school education, to review educational developments in the State and

to conduct evaluation of programmes from time to time through suitable agencies. Its annual report along with its recommendations should be presented to the State legislature.

(3) A standing committee at the officers' level which would include all State level officers in charge of different sectors of education should meet periodically under the chairmanship of the Education Secretary.

(4) The Education Secretary also, like the Educational Adviser to the Government of India, should be an educationist rather than an administrative officer. It will be desirable to make this appointment a tenure post.

197. Directorate of Education : At present the Directorates have grown big and there is not enough delegation of powers to the district level. The time of the Director of Education, therefore, is so taken up with personnel administration and trivial details that he has no time for his principal responsibility of providing leadership in educational development. The entire functioning of the department will, however, be altered by the following two recommendations:

(1) The constitution of district school boards at the district level and the transfer to them of the administration of all education below the university level (including the management of all government schools); and

(2) the strengthening of the office of the district inspector of schools so that he takes over almost all the responsibilities of the Directorate in his area.

When these changes are carried out, the Directorate will be a compact and efficient organization concerned mainly with general co-ordination and supervision over the district education officers and district school boards. It will then be possible for the Directorate to vitalize education through a purposeful and dynamic leadership.

198. District Level Organization : The first of these changes, viz., the constitution of District School Boards, has already been discussed above. With regard to the second, the following suggestions are made:

(1) The District Educational Officer should be given adequate status. This can most conveniently be done by including this post in the proposed Indian Educational Service when it is created.

(2) There should be adequate delegation of authority to the district level so that the district office can function with effectiveness and efficiency. The district officer should vitally be the Directorate in so far as the schools are concerned, and the need for schools to go to the higher levels in administrative matters should

be reduced to the minimum.

(3) With regard to the inspectorial staff at the district level, three main changes are needed. First, there should be an upgrading of the scales of pay and recruitment of a higher quality of officers. Second, there should be an adequate specialised staff at the district level, e.g., in evaluation, curriculum improvement and guidance or special areas like physical education. Third, the strength of the district staff should be increased to cope with all the new responsibilities delegated to it. In particular, there is need to provide a small statistical cell in each district office.

199. The State Institutes of Education : It is necessary to build up some specialised organisations which will function as integral parts of the State Education Departments and whose main purpose will be to develop certain specialised services for the development of education. Among these, three have already been referred to: (1) the State Board of Teacher Education; (2) Bureau for Textbook Production and Research; and (3) the State Evaluation Organization. Two other such organisations are needed: (1) the State Institute of Education; and (ii) the State Board of School Education.

The State Institutes of Education have been recently established in all States. They are still new and finding their feet. It is necessary to develop them as academic wings of the State Education Departments. They should become replicas of the National Council of Educational Research and Training established at the Centre and should co-ordinate together the activities of different Institutes functioning at the State level. It is better to have one big comprehensive organisation of this type rather than a number of small uneconomic units devoted to special fields.

200. State Boards of School Education : In each State, a State Board of School Education should be established and it should take over the functioning and the responsibilities of the existing Boards of Secondary Education and allied agencies. The Board should be established by law and should have large powers and freedom to enable it to function and discharge its responsibilities satisfactorily. This would be greatly facilitated if its finances are pooled together in a separate fund managed and maintained by the Board. The Board should function as an integral part of the Department.

(1) The Board will be in charge of the entire school stage in respect of curricula. Recognition of primary schools will be given by the District Education Officer and of secondary schools by both the Department and the State Board of School Education.

(2) In addition to conducting the external examination at the

end of the lower secondary stage, the Board will also conduct examinations in general education at the end of the higher secondary stage.

(3) In the long run, it would be desirable to bring all school education—general and vocational—within the scope of a single organisation like the State Board of School Education. But this step may not immediately be practicable. Therefore, separate organizations may be set up, for the time being, for different vocational courses at the State level. There should, however, be a close co-ordination between these bodies and the State Board of School Education, and there should be overlapping membership to some extent.

(4) A special committee of the Board should be established to look after the higher secondary stage. Half of its members should represent the schools and the other half, the universities.

201. Indian Educational Service : There is an urgent need to create an Indian Educational Service to improve the quality of administration, and to give adequate status to education officers.

(1) Its recruitment should be as follows :

(a) Only one-third of the posts should be filled by direct recruitment at the level of the junior scale. Even these selected persons should not be placed in administration direct. Their first assignments for a minimum period of 2-3 years should be in teaching and it is only after this initiation that they should be assigned to administration.

(b) The remaining two-thirds of the posts should be filled partly by direct recruitment and partly by promotion at the level of the senior and higher scales.

(c) Some posts of the IES should be available for being filled by tenure appointments of teachers for specified periods. In the same way, some posts in teaching and research should also be available for tenure appointments of persons from the IES.

(2) As there are insuperable difficulties, the idea of creating a teaching wing in the IES should be abandoned. The service should encadre only the posts of Directors and officers of the Directorate and District Educational Officers in the State, and at the Centre, educational officers of the Ministry of Education and other Ministries and Education Departments of Union Territories.

(3) An adequate number of posts comparable to the higher scales of pay in the IES should be created in the universities and colleges to prevent a drain of talent from teaching and research

to administration.

(4) It should be a convention that only about 50 per cent of the IES officers are assigned to their own States and there should also be a possibility of inter-State transfers (in addition to deputation to the Centre). To facilitate this, each member of the IES should be required to study and pass, within a given time after recruitment, tests in two other languages (Hindi and one more Indian language which is not his mother-tongue) to certain prescribed depth.

202. State Educational Services :

(1) There should be an adequate number of posts at higher levels, namely, in Class I and Class II. The Secretaries of the District School Boards should be in Class I. The District Educational Inspectors (who will be in the IES) should have adequate assistance from officers of Class I and Class II status. In order to attract talented persons, recruitment is needed at three levels: Assistant Teachers level; Class II level (50 per cent for freshers and 50 per cent for promotion) and Class I level (75 per cent for freshers and 25 per cent for promotion).

(2) A major reform now needed is to reorganise the State Education Departments where necessary on the basis of specialised functionaries and what is even more urgent and important is to make adequate arrangements for their specialised training with the help of the universities.

(3) To reduce anomalies in the salaries of the departmental staff and enable transferability, it is proposed that (a) the scales of pay in the teaching and the administrative wings should be identical and (b) the scales of pay of the departmental staff should be correlated with the UGC scales of pay for university teachers.

203. Training of Educational Administrators :

(1) The State Institute of Education in collaboration with universities, where necessary, should organize the in-service educational programmes of all the non-gazetted and gazetted (Class II) staff on the administrative and inspectorial side. In addition, they should also organise conferences, seminars and workshops for the gazetted staff.

(2) The old practice of giving furlough leave to administrators for undertaking special studies in educational problems should be revived.

(3) Some incentives should be provided for the officers who improve their qualifications materially through programmes of in-service education.

204. **National Staff College for Educational Administrators :** The Ministry of Education should establish a National Staff College for Educational Administrators. It should provide in-service education for all the senior officers in the Educational Services—IES and State Educational Services (Class I). It should conduct two types of courses—a longish induction course for new recruits and shorter courses of three to six weeks for officers in service. It should have a research wing for conducting studies in problems of educational administration and function as a clearing house of administrative procedures and practices in the States and Union Territories. It should also conduct periodical conferences, seminars and workshops on matters relating to educational administration.

205. **Procedures :**

(1) There should be a change in the attitudes of administrators who should cultivate an openness of mind and a spirit of enquiry rather than a rule-of-the thumb approach which tries to stick to established practices even when they cease to be meaningful.

(2) The practice of holding periodical reviews, say, every three to five years, of important administrative practices with a view to chopping off dead wood and putting in fresh grafts where necessary should be established.

(3) Inter-State contacts should be built up and comparative studies in different State practices in all administrative matters should be encouraged. Periodical comparative studies in educational administration which would involve the State Education Departments closely should be made.

(4) The evolution of the technique of detailed programming of the plan projects and the training of officers in them is the responsibility of the State Institutes of Education and the National Staff College for Educational Administrators.

206. **Education Acts :**

(1) Education should be given a statutory basis everywhere and in all sectors and Education Acts should be passed in all the States and Union Territories. These should be comprehensive and consolidated measures which will replace all the miscellaneous laws which now exist and which will also provide a statutory basis for certain important aspects of administration (e.g., grant-in-aid codes) which now exist merely in the form of executive orders.

(2) The Government of India should issue a statement on the national policy in education which should provide guidance to the State Governments and the local authorities in preparing

and implementing educational plans in their areas.

(3) The possibility of passing a National Education Act may also be examined.

207. Expenditure on Education (1950-65) : The growth of educational expenditure in India during the last 15 years, according to sources and objects, is given in Appendix V (Tables 1-3). It will be seen therefrom that

—the total educational expenditure increased from Rs. 1,144 million in 1950-51 to Rs. 6,000 million in 1965-66, which denotes a cumulative annual increase of 11.7 per cent. This is 2.2 times the rate of growth of national income at current prices (5.4 per cent). It is 1.6 times the rate of growth of enrolment and 1.7 times the rate of growth in the number of teachers;

—the total educational expenditure per capita rose from Rs. 3.2 at the beginning of the first plan to Rs. 12.1 at the end of the third; and

—the total educational expenditure represented 1.2 per cent of the national income in 1951 and 2.9 per cent in 1965.

According to sources, it will be seen that, in the same period, the contribution of governments—Central and State—rose from 57.1 to 71.2 per cent while that of fees fell from 20.4 to 15.3 per cent, of local authorities from 10.9 to 6.3 per cent and of other sources from 11.6 to 7.2 per cent.

208. Expenditure on Education (1966-85) : The forecast of expenditure during the next twenty years depends on rate of growth of economy (estimates varying from 5 to 7 per cent), rate of increase in population (estimates varying from 1.5 to 2.5 per cent) and the proportion of national income devoted to education (estimates varying from 4 to 6 per cent). On these assumptions, the minimum and maximum forecasts would be as follows:—

Minimum: If national income grew at 5 per cent per year, population at 2.5 per cent per year, and 4 per cent of national income were allocated to education, the expenditure on education in 1985-86 would be only Rs. 27.5 per capita.

Maximum: If national income grew at 7 per cent per year, population at 1.5 per cent per year, and 6 per cent of the national income were allocated to education, the expenditure on education in 1985-86 would be as high as Rs. 75.1 per capita.

It may be desirable to assume a medium forecast—rate of economy growing at 6 per cent, population at 2.1 per cent and the proportion of national income devoted to education rising to 6 per cent. On these assumptions, the total educational expenditure in the next 20 years

should rise from Rs. 12 per capita in 1965-66 to Rs. 54 in 1985-86 (at constant prices). The details will be found in Appendix V (Tables 4-5).

209. As time passes, Governments will have to bear an increasing share in the total educational expenditure and this may reach 90 per cent or so by 1985. However, a total centralization of all financial responsibility for education in the Government will not be desirable. Attempt should, therefore, be made to raise contributions from local communities, voluntary organizations and the local authorities for this purpose. The assistance of the local community should be mobilized through the organization of school improvement conferences for improving the physical facilities in schools and the creation of school funds. In order to provide financial support to District School Boards, the Zila Parishads should raise funds for education by levying cess on land revenue. The State should prescribe the minimum rate of the levy and authorize the Zila Parishads to raise it to a certain prescribed maximum. In order to stimulate the collection of funds, the Government should give grant-in-aid proportionate to the additional revenues thus collected by the Zila Parishad.

210. **A Strategy of Development** : Even with this maximum mobilization of resources for education, the available funds will still be inadequate. It is therefore of utmost importance to evolve a proper strategy of development. One aspect of this strategy is to make a selective rather than a comprehensive approach to the problem, to identify a few crucial sectors and to develop them in a big way rather than spread the meagre resources available very thinly over a wide area. This selective approach will also have to be adopted with regard to the development of institutions at all levels and instead of trying to improve all, the first step would be to develop about 10 per cent of them to optimum levels in the next ten years. The second is to make up for the meagreness of material resources through economies and intensive utilization of available facilities and funds and adoption of new and unorthodox techniques. Some of the measures that can be adopted from this point of view have been discussed in the various parts of the Report. They have been briefly indicated below for convenience of reference:

- (1) The utmost economy possible should be practised in the construction of buildings.
- (2) The cost of equipment could be reduced considerably by better designing, large-scale production, improvisation and careful handling to increase its life.
- (3) Techniques in which certain facilities could be shared in

common by a group of schools (i.e., a circulating library for rural primary schools) should be encouraged and adopted on a large-scale.

(4) Where equipment and facilities become costly and sophisticated, they should be intensively and co-operatively utilized for the largest part of the day and throughout the year.

(5) Whenever possible, educational buildings should be put to use for as long as possible in the day and wherever needed, at night as well.

(6) Larger classes and higher pupil-teacher ratios are inevitable for some years to come, and it would only be a disservice to education to adopt the practice of affluent societies in this regard. In a developing economy, we must accept these as facts of life and meet their challenge through the development of appropriate techniques and hard work.

(7) There is no justification for the continuation of the large wastages which now prevail at every stage. Their reduction should be a definite national target and to that end, programmes for the active involvement of each individual institution in the process should be encouraged. This is the only way to meet the situation.

(8) The working day should be longer and the number of working days should be increased. The vacations should be utilised as fully as possible and designated as vacation 'terms'.

(9) Programmes of part-time and own-time education should be organized on as large a scale as possible to meet the increasing demand for education from workers as well as from those who cannot be provided with a place in full-time institutions.

(10) The education of the gifted children should be attended to on a top priority basis.

(11) With a view to raising quality all round and in all institutions in the shortest possible time, it is essential to concentrate resources, in the immediate future, on the development of some centres of excellence and quality institutions at all stages of education, particularly in secondary and higher education. This programme should be given a very high priority.

(12) Places in full-time institutions of secondary and higher education should be determined strictly on the basis of facilities available and admissions to them should be made on a selective basis with some element of egalitarianism.

(13) Priority in development should be given to sectors of education which have a multiplying effect like post-graduate studies or teacher

education or those which have a direct relationship with an increase in productivity such as agricultural and technical education, or to those programmes which tend to decrease wastage or intensify utilization.

(14) Where a programme cannot be universalized for lack of resources, suitable phasing should be done to implement it immediately and effectively.

(15) Wasteful expenditure which often arises from rigidities of administrative and financial procedures should be avoided by introducing flexibility and adequate decentralization of authority.

(16) Greater emphasis should be placed on programmes which need more of human talent, dedication and hardwork (such as preparation of textbooks, teaching and learning aids, research, etc.) than on those which involve large investment of physical and financial resources.

(17) A vigorous attempt should be made to establish institutions of optimum size at all levels of education because they would be more efficient and less costly.

211. Since an underdeveloped economy cannot aspire to match the levels of per capita educational expenditure of the developed ones, the problems of educational reconstruction in India can be tackled only on the basis of an approach which meets our special situation. A mere imitation of some of the techniques and programmes of education in developed societies will not meet our requirements. The complexity of our problems, and the necessity of connecting education with life, particularly productivity, have to be identified and solutions worked out which take care of the specific needs of the country. It is our firm view that while a careful study of major educational developments in other countries is essential to enable us to draw upon their experiences, there is no substitute for original, hard and serious thinking involved in a sustained and serious effort to make our meagre resources go the longest way possible. This implies emphasis on research in all sectors of education.

VII

NEED FOR VIGOROUS AND SUSTAINED IMPLEMENTATION

212. It is necessary to emphasize the need of a vigorous and sustained implementation if the educational reconstruction visualised in the Report is to be put across. There is no place for half-hearted policies in the days ahead. The economic prosperity of the country, the social and national cohesion of its life, the level of its cultural and spiritual development, its place in the comity of nations and its contribution to the life of Man—all these depend upon the quality of men and women we have; and this, in its turn, depends essentially upon the education we provide. Educational reconstruction is thus crucial for our future and extremely urgent (it has to be completed within the life-span of a generation at the most). It is also unusually difficult because it has to be accomplished with comparatively meagre resources in terms of men, materials and money. In spite of these difficulties, it has to be taken up in earnest immediately and pursued intensively. We stand at a critical crossroads of history where the choice is between education and disaster. We must either build a sound, balanced, effective and imaginative educational system to meet our developing needs and respond to our challenging aspirations or be content to be swept aside by the strong currents of history.

213. A vigorous and sustained implementation of this type needs three essential conditions for success. The first is to accord a higher priority than that given so far to education in our national plans for development. A deliberate commitment about the crucial rôle of education in national development can alone provide the psychological motivation and energy needed for a massive programme of implementation. We realize that such conviction will depend essentially upon the extent to which education is effectively and demonstrably related to the life, needs and aspirations of the country. This is a task mainly for the educators, and it is the urgency of this that we

have emphasized in the Report.

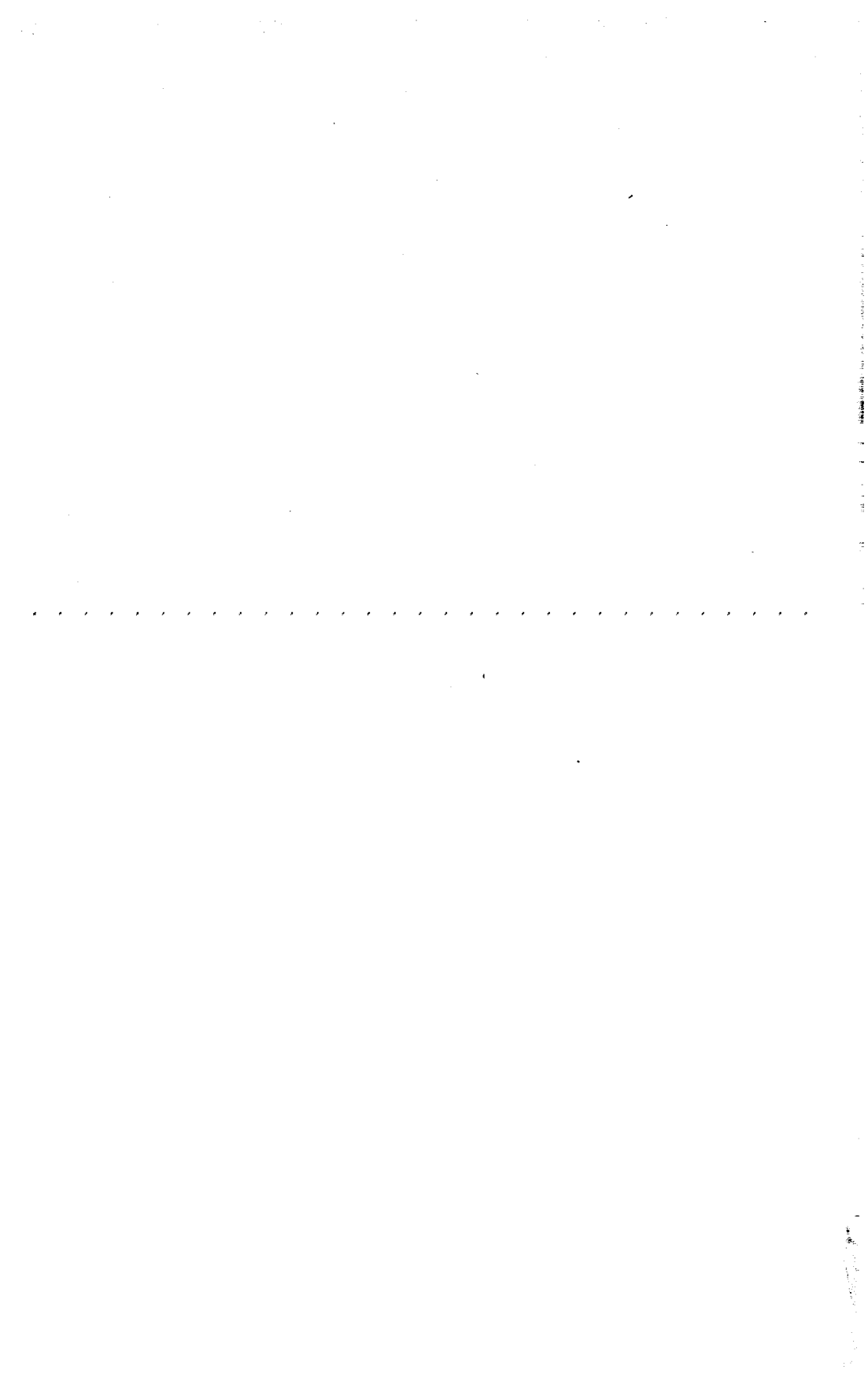
214. The second is the need for dedicated hard work. Today, the nation is facing, as never before, the challenge of hunger, unemployment, ill-health and poverty. A vital element which would help the country to meet this challenge is a revitalized education which, in its turn, can only be created if the leaven of idealistic teachers and administrators exists. Idealism is needed, now more than ever, in all walks of life and especially in education. It may not be easy to plan for it; but it is doubtful if anything worthwhile will be achieved if we cannot generate it in fair measure. Education thus needs and demands more than anything else, hard work and dedicated service. In particular, it presents a supreme challenge to the students, teachers and educational administrators who are now called upon to create a system of education related to the life, needs and aspirations of the people and to maintain it at the highest level of efficiency. It is upon their response to this challenge that the future of the country depends.

215. The third is to integrate plans of educational reconstruction with those of national development as a whole. It has been emphasized that educational and national reconstruction are intimately inter-related and that perhaps the most effective way of breaking the vicious circle in which we find ourselves at present is to begin educational reconstruction in a big way. It is necessary to point out, however, that it will not be possible to make much headway in education unless the basic problems of life are also squarely faced and resolutely tackled. This stresses the interlinking of education and national development.

216. Finally, three points which are obvious but generally tend to be ignored need emphasis:

- The Report of a Commission is not a substitute for action. Its purpose is to generate action. A Report which is shelved or does not lead to action is worse than no Report because it leads to frustration by arousing hopes that remain unfulfilled.
- Time is the essence of the problem. The next few years are crucial and the future of the country depends largely upon what is done about education during the next ten years or so. The decisions on the several recommendations made in this Report need to be taken quickly. Action must start forthwith and continue at an ever-increasing pitch of intensity in the years to come.
- The responsibility of implementing the Report is primarily that of the Government — Central and States. If they will not accept it, no one else will or can.

APPENDICES



APPENDIX I

SALARIES OF TEACHERS

Teachers	Remuneration	Rs.
(1) Teachers who have completed the secondary course and have received two years of professional training.	Minimum for trained teachers Maximum salary (to be reached in a period of about 20 years) Selection grade (for about 15 per cent of the cadre)	150 250 250-300
<i>N.B.</i> The minimum salary of a primary teacher who has completed the secondary course should be immediately raised to Rs. 100; and in a period of five years, it should be raised to Rs. 125. Similarly, the minimum pay of a teacher, who has received two years of training, should be raised immediately to Rs. 125; and it should be raised to Rs. 150 in a period of five years. Untrained persons with the requisite academic qualifications should work on the starting salary until they are trained and become eligible for the scale.		
(2) Graduates who have received professional training	Minimum for trained graduate Maximum salary (to be reached in a period of 20 years) Selection grade (for about 15 per cent of the cadre)	220 400 400-500
<i>N.B.</i> Untrained graduates should remain on their starting salary to Rs. 200 p.m. until they are trained and become eligible for the scale.		
(3) Teachers working in secondary schools and having post-graduate qualifications		300-600
<i>N.B.</i> On being trained they should get one additional increment.		
(4) Heads of Secondary Schools	Depending upon the size and quality of the school and also on their qualifications, the headmasters should have one or other of the scales of pay for teachers in affiliated colleges recommended below.	
(5) Teachers in affiliated colleges	Lecturer— Junior scale Senior scale Senior Lecturer/ Reader Principal	—Rs. 300-25-600 —Rs. 400-30-640-40-800 —Rs. 700-40-1100 —Rs. 700-40-1100 —Rs. 800-50-1250 —Rs. 1000-50-1500

N.B. The proportion of lecturers in the senior scale to those in the junior scale should be progressively improved. By the end of the fifth plan, this proportion should be raised to about 75% on an average.

(6) Teachers in University Departments	Lecturer	—Rs. 400-40-800-50-950
	Reader	—Rs. 700-50-1250
	Professor	—Rs. 1100-50-1300-60-1600

N.B. (1) The proportion of junior to senior posts (i.e., Readers/Professors) is about 3:1 at present in the universities (the corresponding ratio for affiliated colleges is 5:1). We should gradually move in the direction of raising it to 2:1.

(2) One-third of the professors should be in the senior scale of Rs. 1600-1800. Special scales should be introduced for exceptionally meritorious persons and in selected Centres of Advanced Studies.

Note : (a) The above scales of pay for school teachers are at the current price level and include the existing dearness allowance. Suitable increases will, however, have to be made for rise in prices from time to time. For this purpose, there should be parity in dearness allowance, i.e., the dearness allowance given to a teacher should be the same as is paid to a government servant drawing the same salary.

(b) All scales of pay should be periodically reviewed and revised at least once in five years.

(c) Compensatory cost of living allowance given in cities, house-rent allowance or other allowances are not included. These will be in addition to the salary recommended above and should be given on a basis of parity.

(d) The scales of pay are to be integrally related to the programmes of qualitative improvement of teachers through improved methods of selection, and improvement in general and professional education.

(e) The scales are to be given to all teachers—government, local authority or private.

APPENDIX II

SCHOOL CURRICULUM

The broad arrangement of the school curriculum under this proposal would be as follows :—

(1) Lower Primary Stage (Classes I-IV)

- (a) One language—the mother-tongue or the regional language.
- (b) Mathematics.
- (c) Study of the Environment (covering Science and Social Studies in Classes III and IV).
- (d) Creative Activities.
- (e) Work-experience and Social Service.
- (f) Health Education.

(2) Higher Primary Stage (Classes V-VII)

- (a) Two languages—(i) the mother-tongue or the regional language, and (ii) Hindi or English.

(Note : A third language (English, Hindi, or the regional language) may be studied on an optional basis).

- (b) Mathematics.
- (c) Science.
- (d) Social Studies (or History, Geography and Civics).
- (e) Art.
- (f) Work-experience and Social Service.
- (g) Physical Education.
- (h) Education in Moral and Spiritual Values.

(3) Lower Secondary Stage (Classes VIII-X)

- (a) Three languages. In non-Hindi speaking areas, these languages will normally be (i) the mother-tongue or the regional language, (ii) Hindi at a higher or lower level, (iii) English at a higher or lower level. In Hindi-speaking areas, they will normally be (i) the mother-tongue or the regional language, (ii) English (or Hindi, if English has already been taken as the mother-tongue), and (iii) a modern Indian language, other than Hindi.

(Note : A classical language may be studied in addition to the above three languages on an optional basis).

- (b) Mathematics
- (c) Science
- (d) History, Geography and Civics
- (e) Art
- (f) Work-experience and Social Service

- (g) Physical Education
- (h) Education in Moral and Spiritual Values.

(4) Higher Secondary Stage (Classes XI-XII)

- (i) Any two languages, including any modern Indian language, any modern foreign language and any classical language.
- (ii) Any three subjects from the following:
 - (a) An additional language,
 - (b) History,
 - (c) Geography,
 - (d) Economics,
 - (e) Logic,
 - (f) Psychology,
 - (g) Sociology,
 - (h) Art,
 - (i) Physics,
 - (j) Chemistry,
 - (k) Mathematics,
 - (l) Biology,
 - (m) Geology,
 - (n) Home Science.
- (iii) Work-experience and Social Service.
- (iv) Physical Education
- (v) Art or Craft.
- (vi) Education in Moral and Spiritual Values.

(For details, see Chapter VIII.)

APPENDIX III

ENROLMENTS IN EDUCATION (1950-85) *(in thousands)*

Type of Education	1950-51			1955-66			1975-76			1985-86		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Pre-Primary	3,377 (23.8)	1,800 (12.7)	5,177 (18.3)	7,146 (31.6)	4,627 (21.5)	11,773 (26.7)	5,000 (18.9)	5,000 (20.1)	10,000 (19.5)	5,000 (20.5)	5,000 (22.1)	10,000 (21.3)
Primary :												
Classes I-IV	10,102 (55.0)	3,549 (20.1)	13,651 (37.8)	24,536 (90.2)	12,554 (47.6)	37,090 (69.2)	38,066 (109.7)	33,484 (97.2)	71,550 (106.4)	39,509 (110.0)	36,730 (110.0)	76,239 (110.0)
Classes V-VII	2,669 (20.8)	559 (4.6)	3,228 (13.0)	8,962 (49.9)	3,587 (20.7)	12,549 (35.6)	19,774 (81.9)	12,620 (55.7)	32,394 (69.2)	25,214 (90.0)	23,500 (90.0)	48,714 (90.0)
Total	12,771	4,108	16,879	33,498	16,141	49,639	57,840	46,104	103,944	64,723	60,230	124,953
Secondary.												
Classes VIII-X (General)	1,275 (10.6)	186 (1.7)	1,461 (6.3)	4,617 (28.2)	1,373 (8.8)	5,990 (18.7)	8,558 (38.3)	3,309 (15.6)	11,867 (27.3)	13,221 (48.3)	6,274 (24.5)	19,495 (36.8)
Classes VIII-X (Vocational)	29 (0.2)	18 (0.2)	46 (0.2)	90 (0.5)	47 (0.3)	137 (0.4)	546 (2.4)	272 (1.3)	818 (1.9)	3,305 (12.1)	1,568 (6.1)	4,873 (9.2)
Classes XI-XII (General)	140 (1.9)	17 (0.2)	157 (1.1)	695 (6.8)	139 (1.4)	834 (4.2)	1,262 (9.1)	354 (2.7)	1,610 (5.9)	2,502 (14.4)	935 (5.7)	3,437 (10.2)
Classes XI-XII (Vocational)	105 (1.4)	20 (0.3)	125 (0.9)	477 (4.7)	87 (0.9)	546 (2.8)	1,089 (7.9)	284 (2.1)	1,373 (5.1)	2,502 (14.4)	934 (5.7)	3,436 (10.2)
Total	661,549	241	1,788	5,879	1,646	7,525	11,455	4,219	15,674	21,530	9,711	31,241

Higher :												
Undergraduate (Arts, Science & Commerce)	169 (1.6)	22 (0.2)	191 (0.9)	611 (4.3)	148 (1.1)	759 (2.0)	1,038 (5.5)	312 (1.7)	1,350 (3.6)	1,589 (6.4)	563 (2.4)	2,152 (4.5)
Undergraduate (Professional)	46 (0.4)	4 (0.0)	50 (0.2)	195 (1.4)	33 (0.2)	227 (0.8)	432 (2.3)	99 (0.5)	531 (1.4)	818 (3.3)	230 (1.0)	1,048 (2.2)
Post-graduate (General & Professional)	19 (0.2)	3 (0.0)	22 (0.1)	89 (0.7)	19 (0.2)	108 (0.4)	257 (1.5)	64 (0.4)	321 (1.0)	749 (3.2)	211 (1.0)	960 (2.1)
TOTAL	234	29	263	895	200	1,094	1,727	475	2,202	3,165	1,004	4,160
GRAND TOTAL	17,931	6,177	24,108	47,418	22,614	70,032	76,022	55,798	131,820	94,409	75,945	170,354

N.B. The source of and the explanations on this table are given below :

The figures in parentheses represent percentage of population in the corresponding age-groups.

The totals do not tally on account of rounding.

Source : Report of the Education Commission (1964-66), Table 5.5, p. 100 and Table 8, p. 589.

- Notes :*
- (i) The enrolments at the primary stage have been based on the need to fulfil the Constitutional Directive. They have no manpower implications.
 - (ii) The enrolments at the secondary and under-graduate stages have been based on manpower requirements.
 - (iii) The enrolments at the post-graduate stage have been derived separately. For details, see Chapter XIII of the Report of the Education Commission.

APPENDIX IV

GRANTS-IN-AID

The existing system of grants-in-aid needs radical changes in several respects if educational standards in non-governmental institutions—and these provide the vast bulk of the educational facilities available in the country at present—are to be improved. The main recommendations of the Commission on this important subject have been summarised here.

(1) *Maintenance Grants to Universities* : The grants-in-aid to universities can be improved. The developmental grants are given mostly from the UGC for which the State Governments provide a matching contribution. In some cases, they also come from the State Governments. The maintenance grants of the Central Universities come from the Centre while those of State Universities come from the States. It is mainly in the field of maintenance grants from the State Governments to Universities that major difficulties are experienced at present. To remove these, it is suggested that the State grants to universities for purposes of maintenance should be regulated on the basis of a system of block grants. This should provide for:

- fixation of a block grant for a short period, say 3 to 5 years, on a rolling basis;
- provision for inevitable increases of expenditure during the period of grant;
- payment of special grants during this period for unforeseen developments; and
- a 'cushion' to be left to the discretion of the universities so that they can have a fund on which they can freely operate. One way of providing a part of this cushion would be to take into consideration only the 'standard' fees, the cushion consisting partly of the difference between the standard and the actual fees. For the same purpose, we recommend that the interest on endowments should not be taken into consideration while fixing the grant.

(2) *Grants-in-Aid to Local Authorities* : It has been recommended that the Zilla Parishads and Municipalities should be associated with the administration of school education through the constitution of District and Municipal School Boards. The grants-in-aid to them may be regulated in the manner indicated below.

- A. The grant-in-aid to Zilla Parishads should be as follows:
- (a) The grant-in-aid for the salaries and allowances of teachers and other administrative staff sanctioned by Government should be on a 100 per cent basis. Some definite rules should be prescribed regarding the basis on which the number of teachers required should be calculated (e.g., on the basis of enrolment). The administrative and supervisory staff could be related to the number of teachers.

- (b) For the non-teacher costs, a block grant per child in attendance should be given. The amount of this grant should be fixed separately for each category of schools and should be revised every three to five years.
- (c) The resources raised locally by the Zilla Parishad as well as the State Grant thereon, should be left with the Zilla Parishad for such developmental programmes as it deems necessary. To stimulate the raising of such resources, it would be desirable to give additional grant-in-aid in proportion to the resources raised locally by the Zilla Parishad.
- (d) Grants-in-aid for non-recurring expenditure should be given separately, preferably at about two-thirds of the expenditure.

The major objective of the system of grant-in-aid to Zilla Parishads should be to equalize educational opportunities. This should be kept in view while sanctioning the posts of teachers or deciding the recurring grant-in-aid per pupil or the portion of the non-recurring grant to be given. Moreover, the amounts of grant-in-aid should be allowed to be funded and not made to lapse at the end of the financial year, as this encourages economy and a careful use of resources.

B. In devising a system of grants of municipalities for school education, it would be desirable to classify them according to their wealth and to give a grant-in-aid on the basis of equalization. The corporations and richer municipalities should be aided at a certain percentage of the total expenditure, depending upon their resources. The same principle would apply to other large municipalities which have a School Board, the only difference being that the grant-in-aid would be generally at a higher percentage than that in regard to corporations. The smaller municipalities will be able to contribute even less. By and large, they should be made responsible for all non-teacher costs (the teacher costs being borne fully by the State Governments) and should be required to meet them by the levy of a local cess on lands and buildings in their areas and a suitable grant-in-aid towards it given by the State Government, on an equalization basis.

(3) *Grant-in-Aid to Private Schools* : The private schools will be of two types: independent and aided. The independent schools will be recognised but given no financial assistance. The restrictions, on them should, therefore, be reduced to the minimum. The aided schools, on the other hand, would have to be subjected to a greater degree of control on the lines given below :

- (a) Each private school should have a *Managing Committee* consisting of the representatives of the voluntary organization conducting it, the Education Department and its teachers. The grant-in-aid codes will have to prescribe the details of the composition of these committees and their powers and responsibilities. It has to be noted that the primary objective of government nominations is to assist the management by securing for them the advice and guidance of persons interested in education. The success of the system will depend upon the quality of the persons nominated.
- (b) The staffing of the private schools should be broadly on the pattern prescribed for government or local authority schools and their remuneration should also be similar.
- (c) For calculating the recurring grant-in-aid to private schools, the total expenditure should be divided into two parts—teachers costs and non-teachers costs. It will be easy to determine the total teacher costs because of the recommendation made in (2) above. For all non-teacher costs, a minimum and a maximum expenditure should be prescribed, preferably as a percentage of the teacher costs, and the management should be given the freedom to incur this expenditure at its discretion. The grant-in-aid to a school should be equal to
 - (i) the total teacher costs ;

- (ii) *plus* the actual non-teacher costs incurred (or the upper limit prescribed, whichever is less) ;
- (iii) *minus* income from fees at 'standard' rates, after allowing for the prescribed percentage of free studentships (it being open to the management to give additional free studentships from their own resources) ; and
- (iv) *minus* the prescribed contribution to the total recurring expenditure which the management will be required to make from its own funds and not from fees.

The lower and the upper limits to non-teacher costs as well as the contribution to be made by the management should be prescribed separately for each type of school and also separately for advanced or poorer areas. Some concessions should also be shown to girls' schools.

Where fees are charged, it is only the standard fees prescribed by government (and not the actual fees) that should be taken into account for purposes of grant-in-aid. It should be open to the management to charge fees at lower rates and meet the loss thus incurred from its own resources. Similarly, it will also be open to the management to charge fees at higher rates, not exceeding fifty per cent of the standard fees, with the approval of the Department, and to utilise the proceeds for providing additional services in the school or for raising its standards of instruction.

When fees are abolished, item (c) will disappear. In such cases, it should be open to private secondary schools (this authority should be given also to government and local authority secondary schools) to charge a 'betterment fund' from their students subject to an upper limit, say five rupees a year, with the approval of the Department. The income from this fund should be utilised for improvement of instruction or provision of additional facilities. Its accounts will be kept separately and be open to inspection by the Department, but these should not be taken into consideration while fixing the grant-in-aid to the school.

- (d) With regard to non-recurring costs, we think that the managements of private schools should bear a fair share of the total expenditure. By and large, the grant-in-aid should, therefore, be limited to 30 to 50 per cent of the total non-recurring expenditure. In special cases, such as poor localities or girls' schools, the proportion of grant-in-aid may be increased. It should also vary from one type of institution to another.
- (e) The formula suggested above is meant for grant-in-aid to the average school. In implementing it, two provisos will have to be added :
 - (i) There should be a system under which cuts could be made in the grant-in-aid due to a school for patent failure to maintain standards, e.g., inability to retain staff for sufficiently long periods, complaints from staff regarding treatment, poor discipline among students, low results in public examinations.
 - (ii) Schools which maintain high standards and show good results be given special encouragement grants for any projects which they may like to undertake with the approval of the Department.
- (f) Some schools should be regarded as experimental schools and given the freedom from external public examinations and all that they imply. When such schools are in the public sector, the State Government or the local authority, as the case may be, will have to make adequate pro-

vision of funds for their maintenance and development on a basis different from that of the average schools. When such schools are in the private sector, grants-in-aid to them will also have to be given on a special basis, e.g., a liberal block grant renewable every three or five years.

- (g) A discriminating approach should be adopted with regard to private schools and that greater freedom and assistance should be made available to good schools while a larger control should be exercised over the weaker ones. The grant-in-aid codes should be amended to authorise the State Education Departments to take over the management of private schools which do not satisfy requirements and which have persistently failed to come up to standard. Before this extreme action is taken, the Department should frame charges against the management and give due notice. If necessary, an appeal may be made to a tribunal specially set up for the purpose, such a provision will have a very salutary effect and help in raising standards in the weaker group of private schools.
- (h) No grant-in-aid school should be given proprietary institutions.
- (i) It would be desirable to treat the certified reasonable rent on buildings constructed out of voluntary contributions and without State assistance as approved expenditure for purposes of grant in aid. This would encourage the raising of funds for capital expenditure.
- (j) Contribution of private managements may vary from State to State and, even in the same State, from area to area. By and large, a secondary school should be expected to provide an endowment of Rs. 30,000 and a higher secondary school an endowment of Rs. 100,000. Until such an endowment is formed, the contribution of the management should be equal to the interest on an endowment of this order.

(4) *Grants-in-aid to Private Colleges:* Grants-in-aid to private colleges should be similar and patterned on the same principles. The management should be expected to provide an endowment of Rs. 500,000 and, until that becomes possible, to make a contribution equivalent to the interest thereon.

The State Governments should involve the universities more intimately with the operation of the grant-in-aid system to colleges. It would be desirable to have an informal committee consisting of all the vice-chancellors in the State to advise the Education Department regarding grant-in-aid to affiliated colleges. The committee should be consulted on formulation of grant-in-aid rules or modifications therein and the annual allocations of grant-in-aid. The work of this committee would be of great help both to the Department and to the universities.

APPENDIX V

EDUCATIONAL EXPENDITURE

TABLE NO. 1—TOTAL EDUCATIONAL EXPENDITURE IN INDIA (1950-51 to 1965-66)

	1950-51	1955-56	1960-61	1965-66 (estimated)
1. Total educational expenditure from all sources (Rs. in millions)	1,444	1,897	3,444	6,000
2. Index of Growth	100	166	301	524
3. Educational expenditure per capita (Rs.)	3.2	4.8	7.8	12.1
4. Index of Growth	100	150	244	378
5. Total national income (at current prices) (Rs. in millions)	95,300	99,800	141,400	210,000
6. Index of Growth	100	105	148	220
7. National income per capita (at current prices) (Rs.)	266.5	255.0	325.7	424.4
8. Index of Growth	100	96	122	159
9. Total educational expenditure as percentage of national income	1.2	1.9	2.4	2.9
10. Index of Growth	100	158	200	242
	First Plan	Second Plan	Third Plan	All Three Plans
11. Average annual rate of growth of total educational expenditure	10.6%	12.7%	11.8%	11.7%

Source : Report of the Education Commission, p. 465

TABLE NO. 2 : EDUCATIONAL EXPENDITURE IN INDIA BY SOURCES
(1950-51 to 1965-66)

	1950-51	1955-56	1960-61	1965-66 (estimated)
1. Government				
(i) Total expenditure (Rs. in 000's)	652,678	1,172,049	2,340,914	4,271,856
(ii) Index of Growth	100	179	359	655
(iii) Percentage of total expenditure on education	57.1	61.8	68.0	71.2
2. Local Authorities' Funds				
(i) Total expenditure (Rs. in 000's)	124,987	163,458	224,914	378,031
(ii) Index of Growth	100	131	180	302
(iii) Percentage of total expenditure on education	10.9	8.6	6.5	6.3
3. Fees				
(i) Total expenditure (Rs. in 000's)	233,272	379,033	590,258	918,077
(ii) Index of Growth	100	162	253	394
(iii) Percentage of total expenditure on education	20.4	20.0	17.1	15.3
4. Other Sources				
(i) Total expenditure (Rs. in 000's)	132,885	181,980	287,715	432,036
(ii) Index of Growth	100	137	217	325
(iii) Percentage of total expenditure on education	11.6	9.6	8.4	7.2
5. Average Annual Rate of Growth				
	First Plan	Second Plan	Third Plan	All Three Plans
(i) Government funds	12.4	14.8	12.8	13.3
(ii) Local authorities' funds	5.5	6.6	10.9	7.3
(iii) Fees	10.3	9.2	9.2	9.6
(iv) Other sources	6.5	9.6	8.5	8.7

Source : Report of the Education Commission, p-471

TABLE No. 3—EDUCATIONAL EXPENDITURE BY OBJECTS IN INDIA (1950-51 TO 1965-66)

Object	Total Expenditure (Rs. in 000's)		Percentage of total expenditure		Average annual rate of growth
	1950-51	1965-66	1950-51	1965-66	
A. Direct Expenditure					
1. Pre-Primary Schools	1,198	11,000	0.1	0.2	15.9
2. Lower Primary Schools	364,843	1,220,500	31.9	20.3	8.4
3. Higher Primary Schools	76,990	717,500	6.7	12.0	16.0
Total (First Level)	443,031	1,949,000	38.7	32.5	10.4
4. Secondary Schools	230,450	1,181,000	20.1	19.7	11.5
5. Vocational Schools	36,944	250,000	3.2	4.2	13.6
6. Special Schools	23,335	39,920	2.0	0.7	3.6
7. Boards of Secondary/Intermediate Education	5,338	45,000	0.5	0.8	15.3
Total (Second Level)	296,067	1,515,920	25.9	25.3	11.5
8. Universities	49,052	270,000	4.3	4.5	12.0
9. Research Institutes	6,256	65,000	0.5	1.1	16.9
10. Colleges for Arts & Science	71,714	327,500	6.3	5.5	10.7
11. Colleges for Professional Education	42,194	350,000	3.7	5.8	15.1
12. Colleges for Spl. Education	2,224	17,500	0.2	0.3	14.7
Total (Third Level)	171,440	1,030,000	15.0	17.2	12.7
13. Total (Direct)	910,539	4,494,920	79.6	74.9	11.2
B. Indirect Expenditure					
14. Direction and Inspection	27,364	114,009	2.4	1.9	10.0
15. Buildings	99,270	666,055	8.7	11.1	13.5
16. Scholarships, Stipends, etc.	34,456	420,035	4.0	7.0	18.1
17. Hostels	18,264	95,463	1.6	1.6	11.7
18. Miscellaneous	53,928	209,518	4.7	3.5	9.5
19. Total (Indirect)	233,282	1,505,080	20.4	25.1	13.2
20. GRAND TOTAL	1,143,822	6,000,000	100.5	100.0	11.7

Source : Report of the Education Commission, p.-467.

TABLE NO. 4 : TOTAL EDUCATIONAL EXPENDITURE (1965-85)

	1965-66	1970-71	1975-76	1980-81	1985-86
1. National income at 1965-66 prices—Increase assumed at 6 per cent per annum (Rs. in millions)	210,000	281,000	376,000	503,000	673,000
2. Index of Growth	100	134	179	240	320
3. Population estimates (Medium projection in millions)	495	560	630	695	748
4. Index of Growth	100	113	127	140	151
5. National Income per head of population (Rs.)	424	502	597	724	900
6. Index of Growth	100	118	141	171	212
7. Total educational expenditure (Rs. in millions) (increase assumed at 10 per cent per annum)	6,000	9,663	15,562	25,063	40,364
8. Index of Growth	100	161	259	418	673
9. Percentage of total educational expenditure to national income	2.9	3.4	4.1	5.0	6.0
10. Index of Growth	100	117	141	172	207
11. Educational expenditure per capita (Rs.)	12.1	17.3	24.7	36.1	54.0
12. Index of Growth	100	143	204	298	446

Source : Report of the Education Commission, p. 473

TABLE No. 5—EDUCATIONAL EXPENDITURE BY OBJECTS IN INDIA
(1975-76 AND 1985-86)

<i>Object</i>	<i>Total expenditure (Rs. in 000's)</i>		<i>Percentage of total expenditure</i>	
	1975-76	1985-86	1975-76	1985-86
Recurring				
Pre-Primary	236,956	488,531	1.5	1.2
Lower Primary	3,749,220	6,129,616	24.1	15.2
Higher Primary	2,451,567	5,140,287	15.8	12.7
Lower Secondary	2,432,310	7,072,638	15.6	17.5
Higher Secondary	1,312,336	3,643,549	8.4	9.0
Direction and Inspection	389,050	1,614,560	2.5	4.0
Scholarships	301,680	1,490,240	1.9	3.7
Total (School)	10,873,119	25,579,421	69.9	63.4
Under-graduate	1,892,766	4,238,963	12.2	10.5
Post-graduate	1,124,200	4,043,400	7.2	10.0
Scholarships	628,200	2,416,200	4.0	6.0
Total (Higher Education)	3,645,166	10,698,563	23.4	26.5
Adult Education	77,810	403,640	0.5	1.0
TOTAL (RECURRING)	14,596,095	36,681,624	93.8	90.9
Capital				
School education	389,050	1,008,890	2.5	2.5
Higher education	576,855	2,673,486	3.7	6.6
TOTAL (CAPITAL)	965,905	3,682,376	6.2	9.1
GRAND TOTAL	15,562,000	40,364,000	100.0	100.0

Source : Report of the Education Commission, p. 485.

TABLE NO. 6 : AVERAGE ANNUAL COST PER PUPIL (1950-51 TO 1985-86)

Year	Average annual salary per teacher	Number of pupils per teacher	Percentage of non-teacher costs to teacher costs	Average annual cost		Total
				Due to teacher costs	Due to non-teacher costs	
	Rs.			Rs.	Rs.	Rs.
Pre-Primary Education						
1950-51	914	25	51.3	37	19	55
1965-66	1,000	31	56.3	35	20	55
1975-76	1,800	40	50.0	50	25	74
1985-86	2,500	40	50.0	69	34	103
Lower Primary Education						
1950-51	455	34	24.6	16	4	20
1965-66	1,046	38	11.1	27	3	30
1975-76	1,800	50	20.2	43	9	52
1985-86	2,500	45	19.6	67	13	80
Higher Primary Education						
1950-51	682	24	32.0	28	9	37
1965-66	1,087	31	12.4	40	5	45
1975-76	2,100	35	20.0	73	14	87
1985-86	2,875	35	20.0	99	20	119
Lower Secondary Education (General)						
1950-51	1,258	25	44.8	50	23	73
1965-66	1,959	25	37.0	78	29	107
1975-76	3,150	25	33.3	152	51	203
1985-86	4,150	25	33.3	201	67	268
Lower Secondary Education (Vocational)						
1950-51	1,705	16	86.8	106	92	197
1965-66	2,887	15	100.0	208	208	417
1975-76	—	—	—	—	—	500
1985-86	—	—	—	—	—	600
Higher Secondary Education (General)						
1975-76	4,500	20	33.3	272	91	363
1985-86	5,500	20	33.3	333	111	444
Higher Secondary Education (Vocational)						
1975-76	—	—	—	—	—	700
1985-86	—	—	—	—	—	800

Source : Report of the Education Commission, p. 480

TABLE NO.

Type of
Institution

Salary
per
teacher

Rs.

Under-graduate

(a) Arts and Commerce

Year	Salary	No. of Teachers	Total Salary	Number of Institutions	Total Number of Teachers	Total Salary
1950-51	2,696	20	73.7	133	98	231
1965-66	4,000	20	63.8	200	128	328
1975-76	6,000	15	66.7	440	293	733
1985-86	7,500	15	66.7	550	367	917

(b) Science and Vocational

1950-51	3,948	11	118.1	357	422	779
1965-66	6,410	11	100.0	584	583	1,167
1975-76	—	—	—	—	—	1,500
1985-86	—	—	—	—	—	2,000

Post-graduate

(a) Arts and Commerce

1975-76	10,000	8	118	1,375	1,625	3,000
1985-86	12,000	8	118	1,650	1,950	3,600

(b) Science and Vocational

1975-76	—	—	—	—	—	5,000
1985-86	—	—	—	—	—	6,000

Source : Report of the Education Commission, p-48

