

APPROACH TO THE FOURTH FIVE-YEAR PLAN IN EDUCATION

(1969-70 to 1973-74)

MINISTRY OF EDUCATION
GOVERNMENT OF INDIA
NEW DELHI

MAIN FINDINGS AND RECOMMENDATIONS

In every sector - adult, primary, secondary and higher education - there are several programmes of great significance and priority which need our attention. If we were to take up all of them for implementation, the available meagre resources would be spread thinly and the results in every sector will be disappointing. It is therefore necessary to make some choices, however difficult and unpleasant the task may be.

2. It is suggested that, in the Fourth Plan, we should concentrate on two sectors: (a) primary education and (b) higher education. In adult education, only one programme should be given high priority, viz., literacy classes for children in the age-group 11-14 or 11-17. This programme has been discussed in paragraph 6(2) on pages 5-7. It is suggested that it should be developed in a big way in all parts of the country. It should be an objective of policy to ensure that, by the end of the fourth Five Year Plan, every child in the country shall be literate when he enters the world of work at the age of 18. In secondary education, two programmes should receive priority, namely, (a) the development of science education (the details of which have been discussed in paragraphs 14-15 on pages 20-21 and (b) vocationalization (the details of which are given in paragraphs 21-23 on pp 24-26). These should be developed in a big way on a national basis.

3. Primary Education : This programme should receive very high priority and special attention should be paid to (a) the provision of free primary education in classes I-VII or I-VIII, as the case may be, in Assam, Bihar, U.P. and West

Bengal; (b) making universal provision of facilities in lower primary education (classes I-IV or I-V) by the end of the fourth Five Year Plan and for classes V-III or VI-VIII by the end of the fifth Plan; (c) the enrolment of all children in the age-group 6-7 in class I; (d) the reduction of wastage and stagnation to the minimum; (e) improving the status and education of primary teachers; and (f) improvement of physical facilities in primary schools, especially with the assistance of the local community. A programme of special Central assistance to the less advanced States will also have to be devised.*

4. Higher Education : This needs the highest emphasis and has a special claim on Central assistance because co-ordination and maintenance of standards in higher education is a Central responsibility. Emphasis will have to be laid on the development of (a) post-graduate education and research; (b) student services; (c) book production programmes; (d) curricular teaching methods and evaluation procedures; and (e) affiliated colleges. These programmes have been discussed in paragraphs 26-27 on pages 27-33.

5. All the States should adopt the national level priorities indicated above. They may, in addition choose such other programmes of development which may have a priority in their own local conditions.

6. A restraint in the expansion of secondary and higher education is essential if the policies indicated above are to be implemented in an effective way. Otherwise, mere expansion of programmes at these stages will consume

*These programmes have been discussed in detail in a separate paper as well as in paragraphs 7-8 on pp 7-13.

such large portion of the resources available that the priority programmes indicated above will be starved of essential resources and their effective implementation will suffer.

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APPROACH TO THE FOURTH FIVE YEAR PLAN IN EDUCATION
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Since the resources available are inadequate to develop all sectors of education in a big way, it has often been suggested that one or two of the following sectors may be selected for intensive development in the fourth Five Year Plan:-

- (1) Liquidation of adult illiteracy;
- (2) Fulfilment of the directive of the Constitution with regard to free and compulsory primary education;
- (3) Qualitative improvement and vocationalisation of secondary education; and
- (4) Qualitative improvement of higher education.

The object of this paper is to analyse the financial and other implications of this proposal.

I - LIQUIDATION OF ADULT ILLITERACY

2. Arguments in Favour of Organising a Big Campaign for the Liquidation of Adult Illiteracy: Two main arguments are usually advanced for developing an intensive programme of liquidation of adult illiteracy spread over a period of 10-15 years.

(1) The liquidation of adult illiteracy is essential for the early modernization of society, for economic development, for successful implementation of the programme of family planning, and generally to create an effective climate for or to increase the tempo of the programmes of national development.

(2) It is also pointed out that exclusive dependance upon the development of a programme of

primary education for liquidation of adult illiteracy has not had happy results in the past and is not also likely to have any better results in the future. For instance, a study made by the Department of Adult Education of the NCERT shows that, on the basis of the present programmes for the development of primary education, the percentage of literacy in India will rise from 24 in 1961 to only 48 in 1981. But owing to the increase in population, the number of illiterates in the country will also increase from 333 million in 1961 to 358 million in 1981. Even in the critical age-group of 15-49, the number of illiterates will rise from 146 million in 1961 to 163 million in 1981. It is, therefore, argued that intensive efforts for liquidation of adult illiteracy must supplement those for the development of primary education. *

3. The programme this report is that large-scale campaigns should be organised for spread of literacy among adults and that the problem should be solved by about 1981.

4. The cost of the programme is, of course, very large. It takes about a year to make an adult functionally literate. In the first three months, he becomes literate in terms of the census definition. But he will have to be exposed for a further period of nine months to a post-literacy programme to ensure functional literacy. The cost of the first

* For details, see Annexure I

stage of the programme is about Rs 10 and that of the post-literacy programme about Rs. 20. The total cost of making an adult functionally literate is thus about Rs. 30. During the next twelve years, it will be necessary to make about 300 million adults literate or about 25 million adults literate every year. This will involve an annual expenditure of Rs. 750 million over the next twelve years.

5. Arguments Against the Organisation of Big Campaigns for the Liquidation of Adult Illiteracy: This view is not shared by all; and what is often contested is, not the desirability of this programme, but its practicability in the present circumstances. There are, it is pointed out, several difficulties in implementing this programme.

(1) The biggest of these is motivational. How can the adult community be induced to become interested in literacy? This can only be done, as in the socialist countries, against the background of a large-scale and intensive programme for the improvement of social and economic conditions of the masses of the people, which alone can provide adequate and sustained interest in a programme of literacy. The possibilities of developing such an intensive programme in the country today appears to be rather remote; and, if this basic condition is not fulfilled, it is likely that a large scale investment in the programme of adult literacy will largely be frittered away through bogus literacy classes, ghost attendances and manufactured results to disguise inefficiency or even corruption.

This has happened in the past and is likely to recur again..

(2) The financial aspects of the programme constitute another major difficulty. The additional resources required for the programme are very large and may not be easy to find. At any rate, they will cut substantially into the funds that could be allocated to other important sectors.

(3) There will also be organisational difficulties. The problem of getting teachers, buildings and equipment can probably be solved by converting educational institutions into Adult Literacy Centres for the locality and by using their buildings, equipment and teachers (with some honorarium paid) for the purpose. But the difficulties of maintaining regular attendance among adults are even greater than those among children. The problem of wastage or drop-outs and of lapses into illiteracy are far more serious than are imagined. In fact, even in the best literacy campaigns organised so far, the net gains to literacy have been 50 per cent or even less. There is no reason to assume that, in the campaigns to be organised in future this picture will be largely different.

(4) All attempts made in the past to persuade the State Governments to give a high priority to the programme of adult literacy have failed. The latest such effort was initiated by Dr. V.K.R.V. Rao, the then Member (Education), Planning Commission, in 1964-65, who had originally proposed the allocation of Rs 74 crores for adult literacy programmes in the fourth Five Year Plan. But when the State Plans came to be actually formulated, adult education could get only a meagre allocation of Rs. 6 crores. Even in the recent Conference of State Education Secretaries there was a general unwillingness to assume responsibility for development of a large scale programme for liquidation of adult literacy and the consensus was that the available resources could be much better utilised through intensification of the primary education programme.

6. Some Concrete Proposals for Consideration: It is thus evident that it will not be possible to take a stand that no effort whatsoever will be made to improve the position of adult literacy. Nor is it possible to take a stand that we can go all out for a total eradication of mass illiteracy. A pragmatic approach will, therefore have to be adopted and a suitable programme, within our financial and organisational competence, will have to be developed in the next ten years or so. The following outline

of such a programme may be considered:-

(1) Reduction of Wastage and Stagnation at the

Primary Stage:- There is no reason to assume that the system of primary education will continue more or less on its present basis and with its high rates of stagnation and wastage. In fact, the emphasis during the next ten years should be on the reduction of wastage and stagnation. This programme is largely organisational and does not involve any heavy financial outlays. But if it is implemented, it will be possible to get a much better return for the investment which we now make in primary education; and at the same time, it would be possible to increase the percentage of adult literacy at a much faster rate than what is happening at present.

(2) Part-time Literacy Classes for the Age-group 11-14:-

At present additions are being continually made to the ranks of adult illiterates on a large-scale. This is due to three reasons.

(a) A proportion of children do not get enrolled in primary schools;

(b) Even among those who are enrolled, a large number (as high as 50 per cent) drop out before completing Class IV or V and attaining permanent functional literacy; and

(c) Some even relapse into illiteracy later on.

Studies have shown that the proportion of lapse into illiteracy is small and negligible and that most of the additions to the rank of illiterates are due to either non-enrolment or to early drop-out. The programme of expansion and improvement of primary education, which has been emphasised above, can take care of both these

evils. But their effectiveness can be increased still further by organising, as recommended by the Education Commission, part-time literacy classes for children in the age-group 11-14. What the Commission has said on this subject will bear reproduction.

7.28 to prevent such additions (to the ranks of adult illiterates) and to help in reducing illiteracy, we recommend that all children in the age-group 11-14, who are not attending schools, and who have not completed the primary stage of education and become functionally literate should be required to attend literacy classes, for a period of one year at least.

7.29. Experiments conducted by some institutions in the country have shown that if we begin with grown-up children of this age-group and provide them with part-time education (of about one and a half to two hours per day for about three days a week), it is possible to make them functionally literate in the course of one year. Such classes can be conveniently organized by teachers in primary schools outside the regular school hours, utilising the buildings and equipment of the same schools. The timings of the classes would have to be elastic; they should be determined by local conditions and the needs of the children attending in the sense that attendance in such classes should not interfere with the work they do for the families. In most cases, they will be organized on a part-time basis for about one and a half hours per day, either in the morning or in the evening. For girls, some time in the afternoon is always more convenient. The teachers should be adequately remunerated for the purpose. There need be no separate curricula: but as the size of the average class will be small, it may be possible for teachers to give individual attention to each child and to make them functionally literate during this period. The cost of running these classes will be comparatively small, not more than about Rs.40 per child per year, but its results will be very substantial.

7.30. There is hardly any reason to doubt the success of the programme, and it can even be adopted on a nation-wide scale forthwith. But if it is considered necessary a few pilot

*This programme can also be organised for the age-group

projects may be tried in each district for a short time in order to gain experience before the scheme is launched on a nation-wide basis. In any given area, it may be desirable to begin these classes on a voluntary basis in the first instance. Attendance at such classes should be made obligatory only after the local community becomes familiar with the concept and begins to appreciate it.

- 7.31 It is important to realise that the total size of this problem is comparatively small and that it is of a vanishing character. At present, the population of children in the age-group 11-13 is about 34 million. Of these, 11 million are attending schools in Classes VI-VII; and about 3 million are expected to have completed the primary stage although they are not attending at present. This leaves 20 million children in the age-group 11-13 who will come under this compulsory programme in 1966. During the next ten years, two things are likely to happen. First, the number of children attending schools in Classes V-VII will continue to increase much faster than the growth of population. Secondly, as effective education of five years is increasingly provided to children, the number of those children who leave school before attaining functional literacy will lessen year by year and will disappear by 1976.

- Report of the Education Commission - pp.159-160.

(3) Literacy campaigns amongst adults may be organised wherever the necessary atmosphere and local enthusiasm is available. This may preferably be done by developing intensive projects in selected areas.

(4) Organisation of literacy classes for adults, both men and women, should be an integral programme of national service to be developed at the school and university stages.

II - FREE AND COMPULSORY PRIMARY EDUCATION

7. The early fulfilment of the Constitutional directive with regard to free and compulsory primary education is perhaps the most favoured proposal for emphasis in sectoral development of

education. A separate paper on this has been prepared and circulated. It suggests the following programme of action for inclusion in the fourth Five Year Plan:-

(1) Free primary education: Primary education (classes I-VII) is free in all States except four, Assam, Bihar, Uttar Pradesh and West Bengal. The policy of reimposing fees at the higher primary stage, which is definitely a retrograde measure, is unfortunately asserting itself (e.g. Punjab). It is therefore necessary to take a definite view on the problem and to ensure that primary education is made free in all parts of the country at a very early date and not later than the end of the Fourth Plan.

(2) Universal provision of facilities: On the basis of the Second Education Survey and the criteria suggested by the Education Commission, facilities for lower primary education (classes I-IV or I-V) should be provided as early as possible and at any rate, before the end of the Fourth Five Year Plan. Similarly a careful plan of perspective development should be prepared for each district suggesting the provision of universal facilities for higher primary education in a period of five to ten years, depending upon the level of development already reached. As much of this as is possible should be implemented during the Fourth Five Year Plan; and it would be a good target to provide one higher primary school to every five lower primary schools by the end of the Fourth Plan.

(3) Universal enrolment: A continuous effort should be made to ensure that enrolment in class I is largely of

children in the age-group 5-6 and 6-7. Emphasis should be placed on the enrolment of girls and children of the backward classes or of such economically handicapped section as land-less agricultural labourers. Facilities for part-time education should also be provided to all children who cannot continue their education at the higher primary stage, for some reason or the other, on a full-time basis.

(4) Universality of retention: It should be an objective of policy to ensure that, of every 100 children enrolled in Class I, at least 80 reach Class VII seven years later. For this purpose, the highest emphasis should be placed on the reduction of wastage and stagnation. The target should be to reduce them by about half by 1976 and to almost eliminate them by 1986.

(5) Keeping the cost per pupil within reasonable limits: It is necessary to keep the cost per pupil at the primary stage as low as possible, consistent with the maintenance of minimum standards, with a view to making the programme realistic and feasible. This may be done by :

- (a) keeping the salaries of teachers at a low level,
- (b) by reducing the non-teacher costs, and
- (c) by increasing the pupil-teacher ratio.

The first would be a wrong policy and it should be our objective to provide a good remuneration to primary teachers so that persons of high calibre and with good general education and professional training can be attracted to the profession. The second also will have an adverse effect in standards and the policy should therefore be to keep non-teacher costs at a fairly high

level, say, about 20 per cent of the total expenditure on education. But in the third variable, namely, the pupil-teacher ratio, a much greater elasticity is possible; and by varying it suitably, the recurring cost per pupil can be kept down at a reasonable level. This will involve either the adoption of the double-shift system, at least in classes I-II, or the adoption of a larger class-size. If suitable teaching methods are evolved, this need not have an adverse effect on standards.

(6) Primary teachers: There is a tremendous dissatisfaction among the primary teachers because their remuneration has remained inadequate for years and has now become even more so because of the rise in prices. The situation is particularly serious in the States of Uttar Pradesh, Bihar and West Bengal. A bold programme of improving the remuneration of primary school teachers is thus called for. This may be done by providing a Central grant-in-aid to State Governments on the non-Plan side as, for instance, was done for improving the scales of pay of college and university teachers. Another alternative would be for the Finance Commission to take into consideration the expenditure that the State Governments will have to incur for providing a minimum scale of pay to primary school teachers while recommending its award of distribution of revenues and grants-in-aid to State Governments.

(7) It is essential to improve the general education and training of primary teachers. The comprehensive recommendations made by the Education Commission on this subject should be implemented and State Boards of Teacher

Education should be established in each State as the principal instrument for such implementation.

(8) Improvement of physical facilities in Primary Schools: A sustained and intensive effort has to be made to improve the physical facilities in primary schools. A large-scale building programme should be undertaken and the cost of school buildings should be reduced to the minimum by the adoption of the designs and techniques developed by the Central Building Research Institute, Roorkee, and by the use of locally available materials. The effort of the community should be fully enlisted for improving equipment and other facilities and collections should be made in cash and kind. The excellent work done in Madras State is a good pointer in this direction. It would also be desirable to institute a school fund in each primary school consisting of (a) a minimum grant for non-teacher cost given by the State, (b) collections made by the local community and (c) a matching grant of such collections given by the State on the basis of equalisation.

(9) Finance: The capital expenditure on primary education should be shared between the State Government and the local communities on some basis of equalisation. The teacher-costs (as also such indirect expenditure as is incurred on teacher training or supervision) should be the exclusive responsibility of the State Governments. For the non-teacher costs, the State Government should provide a minimum expenditure and any increase on it should be shared between it and the local communities on a basis of equalisation.

(10) An Elastic Approach: As the level of development reached in different areas of the country shows considerable variations, each State and district should be required to prepare a perspective plan for the development of primary education. In each area, the target should be to move forward at the best pace possible and to reach the goal laid down in Article 45 of the Constitution by 1986.

(11) Special assistance to backward States: Special attention will have to be given to the six comparatively less advanced States in primary education, namely, Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. These States have a much larger and more difficult task to perform in primary education and their resources to perform it are comparatively limited. Unless some special assistance from the Centre is made available, it may not be possible for these States to fulfil the directive of Article 45 of the Constitution even by 1985-86. A definite policy decision in this matter should, therefore, be taken and programmes for this purpose should be drawn up and initiated in the Fourth Five-Year Plan itself. Although it is not a backward State, special assistance will also have to be given to West Bengal to enable it to make primary education free and to improve facilities in urban areas, especially Calcutta.

(12) The role of the Centre: The Government of India has a special responsibility to provide financial support to primary education. In addition, it has also a responsibility to give special assistance to the backward States. From this point of view, the minimum that needs to be done is to institute a special grant-in-aid for the backward

States on account of primary education in the Fourth Five-Year Plan. A second and a more radical method would be to institute a permanent recurring grant-in-aid to all the State Governments on account of primary education, preferably on some basis of equalisation. The analogy of the grants-in-aid for equalisation given by State Governments to local communities in USA could be followed in this regard.

8. It is too early to indicate the enrolments in and allocations for primary education in the Fourth Plan. By 1968-69, about 80 per cent of the children in the age-group 6-11 and about 35 per cent of the children in the age-group 11-14 have been enrolled. It will therefore be probably necessary to increase this enrolment to 95 per cent in the age-group 6-11 and to 45 per cent in the age-group 11-14. An outlay of about Rs.11,400 million will be needed for this programme. But the outlay that seems likely to be available is about Rs.3,000 million. There is thus a wide gap between the needs and resources available. This can be bridged only if -

(1) the targets of enrolments are reduced (involving a danger that we may not fulfill the directive of the Constitution even by 1985-86;

(2) the cost per pupil may be reduced by adoption of the double-shift system, larger class-sizes, etc., and

(3) the States are requested to accord a higher priority to primary education and a sizable allocation for it is also made in the Central sector.

III: SECONDARY EDUCATION

9. In the post-independence period, secondary education has, on the whole, received scant attention. It is therefore argued that, in the days ahead, the largest emphasis should be placed on the development of secondary education which is really the nation building education.

10. The principal programmes at the secondary stage which deserve emphasis are:

- (1) Consolidation;
- (2) Qualitative Improvement;
- (3) Improvement of Science Education;
- (4) Restructuring; and
- (5) Vocationalisation.

Some brief comments on each of these programmes have been given in the paragraphs that follow.

11. Consolidation: At the primary stage, ~~continued~~ emphasis on expansion is still needed and to that extent, programmes of qualitative improvement have a comparatively lower priority, although they may need much greater emphasis than has been accorded to them in the past. At the secondary stage, however, quality assumes the highest priority because the principal justification for emphasising programmes of secondary education is that the qualitative improvement at this stage will spread both downwards to primary education and upwards to higher education. From this point of view, it is necessary to emphasise consolidation rather than expansion. This does not mean

that expansion will be stopped altogether. A minimum expansion will go on at all places and some efforts will also have to be made to expand secondary education, which is an important means of social change, to backward social groups or and to backward areas. But on the whole, the emphasis should now be placed on consolidation and on raising the existing institutions to minimum levels of efficiency. The establishment of new institutions and further expansion should be permitted only if it is possible to maintain rigorously the minimum standards prescribed and in strict relation to real facilities available in terms of teachers and physical resources.

12. A Programme of Action: From this point of view the following programmes should be considered:

(1) On the basis of the Second Education Survey and the criteria suggested by the Education Commission, careful plans for the location of secondary schools should be prepared for each district, after taking into consideration the perspective development of education over the next 10-15 years. An attempt should be made to develop bigger institutions which tend to be economical and efficient. Unhealthy competition, overlapping and duplication should be avoided. Not only will it be necessary to carefully locate the establishment of new institutions but, in some areas, even a rationalisation of existing institutions may have to be attempted.

(2) Strict conditions should be prescribed for granting recognition to or continuing the recognition of secondary schools with a view to ensuring minimum desirable standards. In case of existing institutions, each institution which is below the minimum standards prescribed should be required to prepare a phased programme of development to bring it up to the required standards and the finances for it should be provided, partly through community effort and partly through an appropriate system of grant-in-aid. In case of new institutions, the fulfilment of minimum conditions prescribed should be insisted upon.

13. Qualitative Improvement: Programmes of qualitative improvement of secondary education should receive very high priority. These will include the following:-

(1) The status of teachers should be improved by upgrading their remuneration.

(2) One of the major weaknesses of the system of secondary education today is the weak subject knowledge of the average secondary teacher. This weakness is a major handicap even for teaching the existing curriculum; and if due regard is paid to the upgraded curriculum which we should have to keep in view, this weakness becomes almost crucial. In several States, a fair proportion of non-graduate teachers still teach at the secondary stage. In the majority of States, the secondary school teachers often teach subjects in which they have not taken a university degree or in which they do not have an equivalent qualification. A multi-pronged, large-scale and intensive programme is

needed to overcome this weakness. The universities will have to reorganise their courses, both at the first and second degree stages, to meet the requirements of schools more specifically. Regulations will have to be passed making it obligatory that a secondary school teacher must be a trained graduate and should teach only those subjects in which he has taken a degree or in which he has an equivalent qualification. New appointments will have to be made strictly on the basis of these regulations; and a large programme of summer institutes and correspondence courses will have to be developed to upgrade the subject knowledge of existing teachers.

(3) Physical facilities in our secondary schools will have to be considerably improved. In particular, liberal provision will have to be made for the provision of good libraries. Community support should be enlisted for this purpose and grant-in-aid, on a suitable matching basis, should be provided. What has been said earlier in respect of reducing costs of primary school building will apply to secondary schools also. Even in respect of recurring expenditure, each school should be required to maintain an 'education fund' on the lines recommended by the Education Commission. The fund should consist of local collections and matching grants-in-aid given by the State and should be available for expansion or improvement of existing services or for the provision of new ones.

(4) In order to enable secondary schools to undertake

and implement programmes for upgrading curricula, adopting new methods of teaching and evaluation, etc., the supervisory machinery at the district level should be adequately strengthened. Efficient guidance services should be available to schools through a pool of suitable specialised staff appointed at the district level which should work in close collaboration with the training institutions in the district and with such organisations of teachers as the District Board of Secondary School Headmasters.

(5) The system of school complexes recommended by the Education Commission should be adopted. On the one hand, secondary schools should be linked to colleges or university departments in their neighbourhood which should be persuaded to take an interest in the improvement of school education. On the other hand, they should be closely linked with the primary schools in their vicinity which act as their feeders and should be required to help them to improve their standards. A scheme of this type which integrates the different stages of education more closely than at present will be of mutual benefit to all concerned.

(6) Hitherto, the practice has been to upgrade the curricula of all secondary schools in the State at one stroke. This never works satisfactorily in practice. As suggested by the Education Commission, this system should be replaced by another which is more elastic and which will permit each school to adopt the upgraded curricula subject by subject.

Under this system, the State Boards of Secondary Education will have to prescribe two sets of curricula - ordinary and advanced. It should be open to ^a school to adopt the advanced curricula in one or more subjects according to resources available. Specific conditions should be prescribed for adoption of the advanced curricula and grants-in-aid and training facilities should be made available to enable the schools to comply with them. A phased programme should be prepared and implemented with a view to enabling all schools to adopt the advanced curricula in a period of about ten years.

(7) Student services should be improved and pupil self-government should become an integral part of the instruction in the school. Wherever necessary, arrangements should be made for supply of textbooks to students, through the establishment of textbook libraries. There should be provision for individual attention, especially to provide enrichment programmes for the gifted students and supporting assistance to the backward ones. Private tuitions should be discouraged and institutional arrangements should be made instead. The help of the more advanced students could be advantageously taken in organising a programme of assistance in studies to the retarded students.

(8) A very important point to remember is the significance of the headmaster on whose quality and competence depends the entire qualitative tone of the secondary school. Due care should therefore be exercised in selecting headmasters. It is unfortunate that there is no programme for their training at present. Steps should therefore be taken to develop a

good programme of in-service training for all headmasters of secondary schools. A system of panel inspections of secondary schools should also be adopted, wherever possible, with a view to providing professional leadership for improvement of secondary education and enabling headmasters to study the good work that is being done in other institutions. Professional organisations like Boards of Secondary School Headmasters should be encouraged and involved actively in programmes of qualitative improvement.

14. Science Education: Great emphasis should be placed on improvement of the teaching of science at the secondary stage. In several States, the study of science is optional at present and taking the country as a whole, about 50 per cent of the students at the secondary stage do not study science or mathematics. It is necessary to implement, in a period of about ten years, the recommendation of the Education Commission that science and mathematics should be an integral part of all education till the end of class X. Each State should draw up a detailed programme to implement this recommendation and the funds necessary for it should be included in the fourth Five Year Plan on a priority basis.

15. Special attention will have to be paid to the training of science teachers and to the building up of good laboratories in secondary schools. The emphasis should be, not on providing costly equipment, but on developing programmes which involve the teachers and the

students more intimately in devising their own aids.

16. University science departments should be closely associated with the development of science teaching in the States. They could be of great assistance in training teachers, in conducting research in the improvement of science education, and in preparing text-books and teaching materials.

17. A programme of science talent search should be evolved in each State. Central guidance and coordination for its development should be provided by the National Council of Educational Research and Training.

18. Structure of secondary education: The experience of the integrated courses of secondary education and of the multi-purpose schools is not happy. The pupils enter them at so early an age that no selective admissions are possible. Training a child for a vocation is also not possible and the attempts made to provide a 'vocational bias' have not been of any material use. In fact, this attempt at early specialisation has done positive harm.

As Dr. D. S. Kothari observes:

To force a pupil, or rather the parents, to choose irrevocably at the tender age of 13 or so his or her life's profession, whether science, medicine, arts or what not, is disastrous for the child and for society. It is a kind of 'child marriage' - a child getting wedded to a profession he hardly knows anything about - and it is no more defensible. It is something of an educational scandal.

It is therefore necessary, as recommended by the Education Commission, to break the entire course of secondary education into two stages.

19. There is another important reason to break the course of secondary education into two stages. When there is an integrated course of secondary education covering classes IX-XI or VIII-XI, it is not possible to introduce any selective admissions at the time of the entry to the course because the children are too young. But once a child gets into such a course, he has no alternative but to go on to the end. This increases enrolments and costs and also accentuates wastage. If, on the other hand, the entire course of secondary education is broken into two phases in a suitable manner, it will be possible to leave open the entry to the first phase while introducing selective admissions at the second. This will reduce overall enrolments and costs and also make secondary education more purposeful by linking it more closely with social needs.

20. It is true that, while deciding priorities at the State level, it may not be possible to give this programme the same priority in every State. But the ultimate objective should be to evolve, under a phased programme, a broadly uniform pattern of school and college classes in all parts of the country. This pattern may be on the following lines

(1) Primary education and the first stage of secondary education taken together should form the first ten years of general education - the ten-year school recommended by the Education Commission.

(2) This should be followed by either (a) a course of general education spread over two years which prepares for the university or even for some terminal courses; and

and (b) vocational courses spread over one to three years which generally prepare the student for specific careers in agriculture, trade or industry.

The provision of facilities for general education at the higher secondary stage should be guided by considerations of maintaining standards. The principal idea behind the two-year higher secondary course is that it should be possible to remedy the deficiencies of earlier education and prepare a student adequately for university entrance by improving his command over the library language and by orienting him to the methods of study appropriate to the university stage. The whole advantage of this proposal would therefore be lost if indiscriminate expansion is allowed to take place and if the minimum standards required are not maintained.

The higher secondary classes of general education should be attached to secondary schools, or, as a transitional measure, even to colleges. Good secondary schools should be selected for this upgrading; and an attempt should be made, in the fourth Five Year Plan, to upgrade at least one rural secondary school in every community development block.

The provision of vocational courses at this stage should be related closely to employment opportunities and manpower needs including opportunities for self-employment. They should cover a large number of fields such as agriculture, industry, trade and commerce, medicine and public health, home management, arts and crafts, education, secretariat training etc. Their organisation should be elastic allowing for full-time, part-time and correspondence courses and a large variety of institutional arrangements.

(3) At the university stage, the minimum duration of courses for the first degree should be three years and the duration of the courses for the second degree should be adjusted according to needs.

(4) It should be clearly understood that education beyond class X cannot be claimed as a matter of right. The provision of facilities at the higher secondary stage and beyond should be governed by manpower needs or employment opportunities (including opportunities for self-employment which should be emphasised and developed), the need to maintain minimum essential standards, and the availability of resources in terms of teachers, materials and money. Where the aspirants for admission to these courses are more numerous than seat available, admissions should be carefully regulated with due regard to the natural talents of the students, their achievements at earlier stages and principles of social justice. For such of the students who desire to pursue higher secondary and higher education but are unable to get admission into institutions providing full-time courses, there should be liberal provision for correspondence courses.

The incidental advantage of this new pattern is that it includes a two-year preparatory period for the university. The present PUC courses are too short to achieve anything worthwhile. The new higher secondary stage of two years will make it possible to remedy the deficiencies of school education and also to prepare the students adequately for entering upon a university career. This will make a significant contribution to the improvement of standards in higher education.

Every assistance should be given to State Governments who desire to restructure their system of secondary education on these lines. The actual programme of restructuring should be drawn up separately for each State to suit its own local conditions.

21. Vocationalisation: The idea that the higher secondary stage should be vocationalised with a view to diverting students into different walks of life and reducing

pressures on admission to universities has been before the country ever since the Indian Education Commission reported in 1882. The Education Commission has also supported this programme and accorded it a very high priority. According to its proposals, about 50 per cent of the total enrolment at the higher secondary stage should be in vocational courses.

22. It is, however, necessary to emphasise the extent of vocationalisation at the higher secondary stage which will be closely related to manpower needs and employment opportunities. It, therefore, does not seem practicable to carry out that large scale vocationalisation of higher secondary education which the Education Commission had in view. However, careful studies should be made in every State and to the extent it is justified by manpower needs, or employment opportunities, higher secondary education should be vocationalised as a programme of top priority. Central assistance should also be liberally available for this purpose.

23. There is another aspect to this problem of vocationalisation which needs immediate attention. When education up to class VII or VIII will become universal, vocationalisation may begin at the post-primary stage. When education up to class X becomes universal, vocationalisation may begin at the higher secondary stage. The general policy, as recommended by the Education Commission, should therefore be to prolong the period of initial general education as much as possible and then to begin a programme of vocationalisation. But during the next 15-20 years, we

will have students stepping off from the stream of general education at various points between classes V and X and entering the world of work. It is necessary to provide part-time or full-time courses of vocationalisation (or a combination of continuing general education and vocational education) for such students in order to make them better citizens and productive members of the society. Very little work has been done to develop such programmes, especially on a part-time basis. This task should now be taken on a priority basis in the fourth Five Year Plan. In particular, we must develop appropriate programmes for the education of the young practising farmer on the broad lines recommended by the Education Commission; and similar programmes will have to be developed for young persons engaged in trade, commerce, crafts, and industry and for those who are self-employed or preparing for self-employment. These programmes have a far greater urgency and importance in the present situation than a formal vocationalisation of the higher secondary course.

24. Rural Secondary Schools: In the first three Plans, there has been a tremendous expansion of secondary education in rural areas. Most of these schools are ill-staffed and ill-equipped even at present. Special programmes will, therefore, have to be evolved for improving the quality of secondary schools in rural areas.

25. Fees: There is no immediate need to undertake any programmes of making secondary education free. Fees should continue to be levied on an adequate scale. But

provision should be made for grant of free studentships and scholarships to those who are needy.

IV

HIGHER EDUCATION

26. Yet another view on sectoral priorities is that the highest emphasis should be laid on the qualitative improvement of higher education. The health of a society depends, to a very great extent, upon the quality of higher education it provides. That is why Pandit Nehru said that "if the universities discharge their duty adequately, then it is well with the nation and the people". Unfortunately, the conditions in higher education at present are such that the universities are not in a position to discharge their duties adequately. The improvement of these conditions becomes therefore a problem of high priority in education and of great significance to national development.

27. In the studies carried out by the University Grants Commission from time to time and in the recommendations of the Education Commission, there is a clear indication of the programmes needed for bringing about an immediate and effective improvement in the quality of higher education. Without much elaboration, these have therefore been indicated in the following sub-paragraphs:-

(1) Restraint on Expansion : It is true that expansion of general education at the secondary and university stages is an important instrument of social change and that efforts have therefore to be made to spread it in areas and to classes who have not had adequate access to it so far. Subject to this, however, it is necessary to exercise a general restraint in the expansion of facilities at the university stage. In

professional education, the restraints arise partly from limitations on available resources and the need to maintain adequate standards, but mainly from the necessity to relate the output of educational institutions to manpower requirements or employment opportunities. In non-professional education, the restraints basically arise from the need to maintain proper standards and the paucity of available resources. The following measures therefore need to be adopted:-

(a) Careful plans will have to be drawn up for the location of colleges so that the average college becomes an institution of optimum size which tends to be both economic and efficient.

(b) Careful coordination is needed in the organisation of courses, training facilities and research programmes so as to avoid duplication and waste.

(c) Considerable restraint is needed in the establishment of new universities. Adequate preparation should be made for the purpose and the general policy should be to establish university centres in the first instance and to develop them into universities in due course. No new university should be started unless an adequate provision of funds is made and the consent of the University Grants Commission and the Ministry of Education obtained.

(2) Emphasis on the Development of Post-Graduate Education and Research : Post-graduate education and research have a seed value which can improve the whole field of education. At present, the weakness of these sectors is having a contrary effect. We do not get enough good teachers for colleges because the standards in post-graduate education and research are weak. This dilutes under-graduate education and makes it difficult to get good teachers for secondary schools. In its turn, secondary education gets diluted

and it becomes difficult to get good teachers for elementary schools. The only way to reverse this process and to set standards moving upwards is to expand facilities in post-graduate education and research and, what is even more important, to improve their quality. In particular, centres of advance study need to be strengthened and a small number of 'clusters of centres' aiming at high international standards in research and training need to be established.

(3) Teachers and Students : The scales of pay of university and college teachers have just been improved. An effort should now be made to ensure that these are adopted in all parts of the country without any further delay. Far more strenuous efforts are, however, needed for improving student services, their welfare programmes and discipline. Joint committees of teachers and students should be established in each university department and in every college. Student associations should be developed on proper lines. Programmes of national service should be introduced as an alternative to NCC. Text-book libraries should be established in all colleges and university departments and, wherever possible, provision should be made for day study centres, subsidised cafeterias essential health services and residential facilities. Hostel costs should be kept down to the minimum and students should be required to participate in the management and to practise self-help. Book grants should be made available to talented students and teachers. All these programmes should be given a high priority in the fourth Plan.

(4) Book Production Programmes : The regional languages should be adopted as a media of instruction under a carefully phased programme. For this purpose, a large scale programme of producing text-books and other reference material should be

developed in all modern Indian languages. This programme will have two aspects : (a) national programme, and (b) state level programme.

(a) Books produced as a Part of the national-level programme : These will include translations of books produced at the national level by eminent authors selected on an All-India basis. In addition, they will also include translations or adaptations of important works which will be selected at the national level for translation into all Indian languages.

(b) Original books prepared in the programme at the State level to supplement the books produced in the national level programme : These will include original books written as well as translations of books. In course of time, these books would form the bulk of books available in the States.

The objective of the national level programme is to provide a small core of classical and high quality works which will be common to all modern Indian languages. They will thus promote national integration and help to raise standards. The books locally produced will build round this core and meet all the local needs.

At present our dependence on imported English books is pathetic and this should be reduced to the minimum as early as possible by developing a large scale indigenous programme for producing books in English. As the Education Commission has observed : "It is unfortunate that most of the quality books in science and technology even at the under-graduate stages are still very largely imported. All imported text-books are not quality books. A large-scale import of books in science and technology is not only expensive and costs foreign exchange, but it is bad for our intellectual morale. The country has the

talent and other resources required to produce first-rate books, but it appears that what is lacking is determination and planned effort. By the end of the fourth Plan most of the books required at the under-graduate level and a considerable number at the post-graduate level should be produced within the country." (Page 404). What we need is a massive programme of producing books in English for the university stage in humanities, social science, natural sciences and technology. An intensive beginning in this direction should be made in the fourth Plan and the programme should be made in the fourth Plan and the programme should be almost completed by the end of the fifth Plan. Thereafter, our dependence on imported books in English should be only marginal.

With a view to making cheap books available to our students, four schemes of subsidies have been undertaken at present. The first is the scheme of cheap books produced with subsidy from the USA, under which about 600 titles have been produced so far. The second is the scheme of cheap books produced by the U.K. Government and made available in India. About 400 titles are available in this scheme. A similar scheme is also operated by the USSR Government and about 100 titles are available under it. The fourth is a scheme introduced by the Government of India under which subsidies are given for reproduction of cheap editions of books by Indian authors. The scheme is not well-conceived and there are several difficulties in its implementation. Only two books have been subsidised under it so far. It thus appears that, under this programme, the chances of developing an indigenous programme of book production in English are very poor.

If the objectives really were to produce most of the books required within the country itself and through Indian authors, the scheme of grant of subsidy to Indian authors will have to be developed on the largest scale possible. The other schemes of producing books from UK, USA and USSR should be developed as supplementary to this principal programme. Their magnitude may be large to begin with. But as time passes and the Indian programmes progress, they should be curtailed gradually and assigned to marginal positions. If this is not done, the Indian authors may be driven out of the market and the only books available in India will be those imported from abroad or published within the country under one or the other of these subsidised schemes.

(5) Improvement of Curricula, Teaching Methods and Evaluation Procedures : High priority has to be given to programmes for improving curricula, teaching methods and evaluation procedures, especially because they need comparatively less financial investment. There is urgent need to upgrade and improve curricula in all subjects. The link between the subjects taken at the school stage and those selected at the under-graduate stage should be made more elastic. There should also be provision for general (Pass and Honours) and special courses at the under-graduate stage. Courses for the first and second degrees should be more closely linked with teaching in schools and made more practical. Inter-disciplinary studies need to be encouraged.

Methods of teaching and evaluation have to be radically altered. The emphasis on cramming which now dominates the situation has to be shifted to the awakening

of curiosity and promoting love of learning, habits of self-study, capacity to think and to judge for oneself and problem-solving ability. The dominance of the external examinations has to be reduced and the techniques of holding them, improved. A comprehensive system of internal assessment covering all aspects of student growth has also to be introduced in all institutions. In some parts of the country, there are extensive mal-practices in examinations and several dastardly attacks have been made on invigilators. Urgent steps are needed to improve this situation.

(6) Improvement of Affiliated Colleges : Since 85 per cent of university students read in affiliated colleges, improvement of their standards becomes a programme of great significance. There should be a national programme of giving assistance to all affiliated colleges to bring them at least to certain minimum prescribed standards and a further programme of giving special assistance to selected colleges to enable them to rise to higher levels of excellence. The State grant-in-aid systems to colleges need to be revised and liberalised.

V

GENERAL CONCLUSIONS

28. It is obvious that in every sector - adult, primary, secondary and higher education - there are several programmes of great significance and priority which need our attention. If we were to take up all of them for implementation, the available meagre resources would be spread thinly and the results in every sector will be disappointing. It is therefore necessary to make some choices, however difficult and unpleasant the task may be.

29. Adult Education: Pilot projects for liquidation of adult illiteracy should be taken up in every State or Union Territory. The conduct of literacy classes should also be an integral programme included in plans of national or social service by students and teachers. But the emphasis in this sector should be on the conduct of part-time literacy classes for children in the age-group 11-14 or 11-17. This programme has been discussed in paragraph 6(2) on pages 5-7. It is suggested that it should be developed in a big way in all parts of the country. It should be an objective of policy to ensure that, by the end of the fourth Plan, every child in the country should be literate when he enters the world of work at the age of 18.

30. Secondary Education: The development of science education (the details of which have been discussed in paragraphs 14-17 on pages 20-21) and vocationalisation (the details of which are given in paragraphs 21-23 on pages 24-26) should be the two programmes selected for development on a priority basis in all parts of the country. The State may, however, select any other programme for development on a priority basis in the context of their own local conditions.

31. Primary and Higher Education: Programmes of primary and higher education should receive priority on a national basis. Primary education needs priority partly because it is a constitutional directive whose fulfilment has been long delayed but mainly because it is essential to ensure social justice and laying the foundation for national development

Qualitative development of higher education also needs to be given priority because it is crucial to the health and progress of society. The funds for primary education will naturally have to be provided mainly in the State sector. The bulk of the funds required for higher education will, however, have to be provided in the Central sector because coordination and maintenance of standards in higher education is a central responsibility.

32. It is obvious that a restraint in the expansion of secondary and higher education is essential if the policies indicated above are to be implemented in an effective way. Otherwise, more expansion of programmes at these stages will consume such large portion of the resources that the priority programmes indicated above will be starved of essential resources and their effective implementation will suffer.