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FIFTH MEETING
of
The Education Commission
Minutes & Agenda
Papers.

(8 - 9 January, 1965)

EDUCATION COMMISSION
GOVERNMENT OF INDIA
University Grants Commission Building
New Delhi.

Fifth Meeting of the Education Commission
held on the 8th and 9th January, 1965.

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MINUTES OF THE FIFTH MEETING OF
THE EDUCATION COMMISSION HELD
AT NEW DELHI ON 8TH & 9TH
JANUARY, 1965

EDUCATION COMMISSION
GOVERNMENT OF INDIA
NEW DELHI

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Minutes of the Fifth Meeting of the Education Commission held on 8th and 9th January, 1965 in the Conference Room of the University Grants Commission, New Delhi.

FIRST SESSION (8TH JANUARY, 1965: 10.00 A.M. to 1.00 P.M.)

Present:

1. Dr. D.S. Kothari Chairman

2. Shri A.R. Dawood

3. Dr. V.S. Jha

4. Shri P.N. Kirpal

5. Prof. M.V. Mathur

6. Dr. B.P. Pal.

7. Miss S. Panandikar

8. Dr. K.G. Saiyidain.

9. Shri J.P. Naik Member-Secretary

Shri R.A. Gopaldaswami and Dr. T. Sen regretted their inability to attend the meeting.

The Associate Secretary of the Commission and its officers and Shri K.L. Joshi, Secretary, University Grants Commission, were also present by special invitation.

The following points emerged in the course of the discussion:

1. Minutes: The minutes of the Fourth meeting of the Commission held on 9th, 10th and 11th December, 1964, were confirmed.

2. Budget Estimates: The budget estimates of the Commission as finalised by the Ministry of Education were recorded. Member-Secretary was requested to take up the question of finding funds for research programmes with the Ministry of Education.

P.T.O.

3. The Language Problem in India: The papers on the language problem in India placed before the meeting were broadly discussed. Since Dr. G.S. Mahajani had expressed a desire to give oral evidence before the Commission on this problem, it was decided to meet him either in Rajasthan or at Delhi.

4. Administration and Supervision of Elementary Schools with special reference to the transfer of the control of elementary schools to Panchayati Raj Institutions in Rajasthan: This problem was discussed in all its details, especially in view of the Commission's forthcoming visit to Rajasthan. The following broad view-points emerged in the discussion:-

(1) The demand of the teachers to the effect that the administration of primary schools should be taken over by the State Government is a 'sheltered solution' which will have far reaching implications. A similar demand would be made by the employees of other departments also (such as medical and public health). The net result would be that no decentralization of administration would be possible in any sector.

(2) The problem is not purely academic. It has serious political implications. In the States where the decentralization had once been done, it would be almost next to impossible to retrace steps and to withdraw the powers. In such a situation, one will have to live with the problem and find out how best we could improve the situation.

(3) The leadership in Panchayati Raj Institutions often leaves a good deal to be desired, especially because the major political parties are keeping out of these elections directly. Since there is no political or economic platform on which people can fight these elections, they tend to be generally fought on personal, local or communal

considerations. Consequently, the leadership elected is often retrograde and incapable of giving a lead which is needed in development programmes.

(4) There are two trends in operation at present: the first is the demand of people working in Panchayati Raj Institutions for larger powers and still greater decentralization. For instance, in Rajasthan, the Panchayat Samitis are now demanding control over middle schools also. On the other hand, the Members of Legislature, who find that the Members of Panchayat Samitis and Zila Parishads are becoming more influential and important are proposing to withdraw powers. It is very difficult to see how this struggle for power will ultimately end.

(5) There are a large number of patterns for associating Panchayati Raj Institutions with the administration of primary education. In Punjab and Kerala, the local bodies are not associated at all with the administration of education. In Maharashtra, we see the extreme form of decentralization at the District level. Rajasthan and Andhra Pradesh come midway - in Rajasthan only primary schools have been transferred at the Block level and in Andhra Pradesh, primary and middle schools have been transferred at the Block level and the secondary schools have been transferred at the District level. Madras stands in a class by itself. It has abolished the District Boards, transferred primary and middle schools at the Panchayat level, but kept the Inspectorate entirely its own direct control. The Commission may study each of these types of Panchayati Raj administration and decide upon a form or forms which would be suited to local conditions and traditions and which would adequately safeguard the interests of teachers, and ensure the progress of education.

It was decided that the discussions in Rajasthan should be continued in the light of the above discussion.

SECOND SESSION (9TH JANUARY 1965)

Dr. V.K.R.V. Rao, Member Education, Planning Commission was present at this Session for some time by special invitation.

The following decisions were taken:-

5. Appointments of Consultants: It was decided to invite Sir John Newsom and Dr. C.E. Beeby as consultants to the Commission.
6. Interview with Shri Morarji Desai: The note on problems of Indian education sent in by Shri Morarji Desai was discussed and it was decided to meet him for recording oral evidence. Member-Secretary was authorised to fix a date and time for the meeting in consultation with Shri Morarji Desai.
6. Personal Interviews: (a) The list of persons who were to be interviewed by the Commission was approved. Additions could be made to the list from time to time.
(b) Dr. Jha was requested to be in charge of this programme of interviews.
(c) It was decided that four half days in one week every month should be set aside for such interviews.
7. Questionnaire: The draft Questionnaire placed before the Commission was discussed and approved. It was decided that it should be issued for general circulation.
8. Staff of the Commission: The orders issued by the Ministry of Education regarding additional staff sanctioned for the Commission were recorded.
9. Issues to be discussed with the State Government of Rajasthan: The note on the major issues proposed to be discussed with the State Government of Rajasthan was approved.

10. Training Teachers: The papers on the training and preparation of teachers prepared by Mr. H.L. Elvin was discussed. The following points emerged in the discussion :

(1) The training of teachers needs very great emphasis in programme of educational reconstruction.

(2) If the class-size is very large, no educational work worth the name could be done. It is, therefore, necessary to keep class-sizes within definite limits, although it is possible, with the help of new techniques, to manage somewhat bigger classes..

(Mr. Elvin gave an account of the system of training teachers in England. The aspects that interested the members were three: the proposal of Robin's Committee to link the education of elementary teachers with the Universities; the system of free education for teachers and of the payment of stipends based on the income of the guardians of the students; and the high national standards maintained in teacher preparation. The general feeling was that the experience of U.K. in the preparation of teachers would be of considerable use to the Education Commission in its work).

11. Educational Planning: The paper prepared by Mr. Elvin on the structure of education in a developing economy was discussed and recorded.

12. Papers circulated for information: The following papers which were circulated for information were recorded:

(1) Education and Planned Development - a Note by the Ministry of Education on the perspective of education development for the next three plans (1968-81).

(2) Some problems of Pre-Primary Education - a Note prepared by the Member-Secretary.

(3) Some problems of Secondary Education - a Note prepared by Member-Secretary.

(4) Education, Manpower and Economic Growth - Harbison & Myers

The meeting ended with a Vote of Thanks to the

FIFTH MEETING
of
The Education Commission

Selected Agenda Papers

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EDUCATION COMMISSION
GOVERNMENT OF INDIA

Subject: Medium of instruction at the university stage.

A very careful analysis of the different viewpoints put forward relating to the medium of instruction at the university stage shows that they fall into three main categories:

(i) those who advocate the adoption of a common medium of instruction at the university stage in all parts of India - be it Hindi or English;

(ii) those who advocate the exclusive use of the regional languages as media of instruction, combined with instruction in English and Hindi to function as link languages; and

(iii) those who advocate a bi-lingual solution, i.e. the combined use of regional languages-cum-English or regional languages-cum-Hindi.

The object of this paper is to examine the relative merits of these three viewpoints and to suggest a concrete programme for action.

(i) Adoption of a common medium of instruction at the university stage in all parts of the country (English or Hindi).

2. Let us begin with the first viewpoint which states that there should be a common medium of instruction at the university stage in all parts of India - either English or Hindi. Those who support the continuance of English as a medium of instruction on this ground form a small but very vocal section. The following memorandum by Dr. D.D. Karve provides a good illustration of this viewpoint:-

"I consider that all education above high-school graduation must be through the medium of a language which is the same in all parts of India. This is

"This is absolutely necessary not only for a free exchange and migration of teachers and students within the country, so essential for national integration, but also for easy communication between academicians, professional men, administrators etc. who are engaged in all-India activities and affairs.

The present trend, not only in many universities but also in the minds of a number of responsible public men, to introduce regional languages as media of instruction at the level of higher education must be condemned for the following reasons among others: (i) It will compartmentalise the intellectual life in the country and make communication between the intellectuals from one region and those from another very difficult. (ii) We could not possibly make available to students and teachers the books, periodicals and other learned publications necessary for a proper insight in more than a dozen different languages. The regional languages cannot therefore serve as adequate media for teaching and for examining, while the students' real work of acquiring knowledge is through a modern world language. (iii) Migration of students from one region to another, which is not only desirable, but is becoming necessary in the case of the children of a large number of persons in all-India fields, will be rendered impossible; (iv) recruitment of teachers will be confined to a language region which from every point of view is very undesirable.

The next alternative is Hindi as a medium of instruction in higher education all over India. The proposition has only to be stated in order to show how impracticable it is. It is completely unrealistic to expect all teachers and all students in Indian colleges and universities to know Hindi well enough to use it as a medium of instruction within foreseeable time. There is of course the difficulty regarding the absence of a terminology, text books, reference books and periodicals. Whatever the speakers of Hindi may think and say and whatever the Constitution may lay down, Hindi today and for many years to come is not and will not be an all-India language. It remains one regional language out of fourteen only, it is spoken by more people than the other thirteen.

English, apart from the fact that it is known today and will continue to be known to all students and teachers in colleges and universities, is also one of the world languages. A knowledge of a world language is absolutely necessary for students at the higher educational level and India has the good fortune of being able to use that language without much difficulty as a medium of instruction. Simultaneously it becomes an inter-state and international medium of communication too. The all-India nature of higher education and intellectual activity makes it obvious that English alone can serve as medium of instruction."

3. Whatever the formal argument may be, this proposal is really tantamount to a continuation of the pernicious colonial

system of education built up under the British rule and it would be difficult to accept it on educational grounds.

4. In the alternative, the supporters of the concept of a common medium of instruction at the university stage propose that Hindi - the official language of the Union - should be adopted as the sole medium of instruction in all parts of the country as early as possible. This view finds support only in the Hindi-speaking areas. In the immediate future, this is hardly a practicable proposition; but even as an ultimate solution it meets with an intensive opposition in West Bengal, Assam and all the southern States which will have little to gain and almost everything to lose under such an arrangement.

5. It thus appears that it will not be possible to find any solution to this problem on the basis of adopting a common language as the medium of instruction in the universities - either English or Hindi.

II Adoption of Regional Languages as the Media of Instruction.

6. We now come to the second category which includes persons who believe that the regional languages should be adopted as the media of instruction at the university stage. This is the view most commonly held at present. This was the view of the Radhakrishnan Commission (1). It was reiterated by the Official Language Commission(2). The National Integration Council reiterated the same view in June 1962(3). The Emotional Integration Committee also supported this stand (4) and so did the Vice-Chancellors' Conference of 1962. Apart from this broad-base of academic support, the proposal is further strengthened by political considerations and by the fact that, in the present situation, standards are

* All references are given at the end of this Paper.

falling because of the continued use of English as a medium of instruction when the capacity of the average student, and even of the average lecturer, to wield it is not satisfactory and is getting poorer.

7. So far, it is smooth sailing. But difficulties begin to crop up when some extremists advocate the view that the regional languages should be the exclusive media of instruction at the university stage. It is this extreme view, held mostly in political circles, which meets with considerable opposition on the ground that it will lead to (a) balkanisation of the country; (b) isolation of India from the international intellectual life; (c) loss of mobility for students and teachers; (d) fall of standards; (e) loss of all possibility of inter-university cooperation in teaching and research; and (f) heavy costs in developing all regional languages. There should be adequate safeguards, it is argued, to save the country from this disaster; and if such safeguards cannot be designed, it is claimed that this solution of the problem will have to be abandoned in national interests.

8. The supporters of this view put out that most of these evils are imaginary and that they could all be counteracted by the development of a link language - English at present and to be replaced by Hindi as early as possible (the view of the protagonists of Hindi), or the development of English and Hindi as associate link languages. They also concede the point that a good knowledge of English, not only for comprehension but for a fair degree of expression as well, will be needed by university students for all times to come, even after the regional languages come to be adopted as the exclusive media of instruction. But these arguments fail to carry conviction, especially because link languages cannot be developed in a vacuum and that they will have to be used, in some form or other, for instructional purposes in the university

stage at least.

III The Bilingual Solution to the Problem: Use of Regional Languages-cum-English.

9. It is at this point that the ^{third} category of view-points comes in and supports a bilingual solution of the problem. The basic proposal here put forward is that the regional languages and English should be used as the media of instruction at the university stage. As Dr. D.S. Kothari writes:

"It is most important that the introduction of regional language as medium of instruction is not misinterpreted to mean shutting out of English from university life and work. In fact, for successful completion of the first-degree course a student should possess an adequate command of English to be able to express himself with reasonable ease and felicity, to understand lectures in that language, and to avail of literature in English (particularly scientific and technical). With this aim in view adequate stress should be laid on the study of English as a language right from the school stage.

As has been pointed out on several occasions, the present arrangement under which a large proportion of students at the first-degree stage, and also later, use their regional language for the purpose of examinations, though class-room instruction is given through the medium of English, is educationally undesirable and unsatisfactory. A sudden switch-over in the medium of instruction for a student in passing from school to university has in most cases very unwholesome effects. In a student's life, the change from school to college is a crucial stage. On entering college he finds that there is a far greater demand on his powers of understanding and concentration than he was accustomed to at school. When to this is added the perplexity and difficulty inherent in a sudden change in the medium of instruction in going from school to college, no wonder that many a student feels bewildered and lost, loses zest in studies. The difficulty of medium of instruction is added to that of subject-matter, and the two together become too much for a good many students. At the early stage of the undergraduate course it will be, therefore, an advantage if the bulk of the instruction is given through the regional languages. As one goes higher up the educational ladder, more and more instruction would be through the medium of English."

10. This is an admirable suggestion and should effectively

eliminate all the evils that are likely to arise by the adoption of regional languages as the exclusive media of instruction. This will also find the most general support in the country as a whole, both in the north and in the south.

11. Unfortunately, this is not the only variety of the bilingual solution. There is a school of thought which proposes another bilingual solution on the basis of Hindi (in place of English) and the regional languages as the media of instruction at the university stage. This, for instance, was the view of the Radhakrishnan Commission(6). By and large, it was also the view of the Official Languages Commission. It is to this solution, however, that we find a strong opposition exactly analogous to the view discussed earlier, viz., the adoption of Hindi as the common media of instruction. The case has been argued very well by

Prof. Anjan Dutta:-

"While there is a good case for adopting the mother tongue, or the regional language, as medium of instruction at the university, there is also an overwhelming objection to make it the sole medium of instruction at that level. For if this done, academic life in India will be fragmented into as many parts as there are major regional languages in this country. This we have to avoid; it is essential that there should be a constant and lively exchange of ideas among different parts of the country. In view of the leading role of the universities in the development of intellectual life, it is extremely important that academics all over India should feel themselves as belonging to one and an indivisible community. This cannot be achieved if they are reduced to communicating with one another as they would with foreigners. There is a simple conclusion which follows. If we must have the mother tongue as a medium of instruction at the university, as I think we should, we have to have a second language with coordinate status which shall be common to all parts of India. The academic world in India must be bilingual. Some further clarification of this point is necessary.

When I say that academics in this country must be bilingual, I do not mean simply that they should understand one more language in addition to the major language of the region to which they belong. I mean that they should know these two languages so well as to be capable of expressing difficult and subtle thoughts

"in both. This, I think, is possible. In my own state, Bengal, most of our best poets in recent decades have shown a striking capacity to write high quality English in addition to their mother tongue. For the average writer this is perhaps the limit. It is not difficult for a person to gain some acquaintance with a large number of languages; but it is a different thing to express oneself with ease on intricate matters, such as academic people have to discuss quite often. So students should learn as many languages, Indian as well as foreign, as they may find convenient; but it is very unlikely that they can learn more than two languages at the highest level of efficiency; and in the Indian situation it will not do to learn less than two. One of these should be the mother tongue, or the principle regional language. What should be other?

I suggest that the other language should be English. Some would no doubt plead for Hindi. Hindi, it would be urged, is understood by a much larger number of people than English. This is quite true. It is a point in favour of Hindi; but there are a few points in favour of English too. We have to balance and decide.

From a strictly academic point of view the main question is quite simple. Will the pursuit of knowledge be better promoted by combining the mother tongue (or the major regional language) with English or with Hindi? For those whose mother tongue is Hindi the question may be put in a slightly different form. Will Hindi-speaking people gain more in the domain of higher education by adopting English as a second language? Now, Hindi is about as developed as the other major languages of India, and no more. No doubt all these languages will further develop in future. But two Indian languages will generally have less to learn from or through each other than any of these will have to learn through English. This should be quite evident to anybody who decides to consider the matter with a minimum of detachment and with the requirements of education uppermost in his mind.

One incidental advantage of combining English with the regional language is worth explaining separately. We have earlier expressed our conviction that high-level textbooks can be written in the major languages of India; what is necessary is to create sufficient demand for such books by adopting the regional languages as media of higher instruction. But is there not a danger of standards of textbooks falling in the course of the transition? The retention of English side by side with the regional language will, in some measure, help to avoid this danger. Textbooks in English will serve as a continuous reminder of standards to aim at in the Indian languages. They will also make it possible for teachers of any particular subject to regulate the pace of transition to conform to the actual supply of books in the Indian languages in that subject. This is a service which Hindi, as an associate medium of higher education, cannot very well render to the other major languages of India, but English can.

As a development-seeking country India will have to go out in search of knowledge to other more advanced countries in the coming years. One of the main tasks of people passing out of our universities will be precisely to keep abreast of the growth of knowledge in the world and borrow selectively for application in our country. This is a good reason for learning English well. Our past association with Britain puts us in an advantageous position in this respect, and it is not good sense to throw away this advantage out of nationalist pride. Those who argue for Hindi as against English often point out that it is easier for an Indian to learn Hindi. But this is to put the question in a wrong perspective. Hindi is no substitute for English. It is arguable that those who do not go in for higher secondary education should not be required to learn any foreign language at all. But those who receive higher education are generally required to learn a foreign language in other countries too. Our natural choice of a foreign language is English, although some may cultivate a few other languages too, depending on their special needs. An increasing number of scholars, even in Japan and the Soviet Union, are now learning English. But there they do not care to go much beyond a reading knowledge of the language. This is where our situation has no analogy to that of countries like Japan. In Japan the mother tongue is the common medium of instruction in all universities, while we need a special link language for different parts of our country. Comparison with the Soviet Union is also apt to be a little misleading. In point of development, Russian happens to enjoy an unquestionable superiority over most other languages of the USSR. Hindi does not enjoy the same kind of superiority in relation to the other developed languages of India. This makes our situation not exactly comparable with the Soviet. Hindi does not have the same educational value to a Marathi, Bengali or Gujarati as Russian as to an Uzbek."

12. It thus appears that the best solution of the problem is a bilingual solution (Regional-languages-cum-English) as suggested by Dr. D.S. Kothari and this would meet with the largest support in the country. In the transitional stage which will definitely cover the next 10 or 15 years, this is the only solution practicable; and there is probably no point in vitiating the discussion by references to ultimate situations which, for all that one can see, may never materialize.

13. What would be the precise position of Hindi in such a set up? Hindi is being taught in the schools and colleges

and its knowledge is spreading rapidly in the non-Hindi areas. This process may be expedited and every encouragement should be given to all the efforts of the non-Hindi persons and organisations to spread Hindi in their midst. There should, however, be no imposition in this regard, not even an indecent attempt to hustle. Within a few years - and probably much earlier than many visualise - the use of Hindi will continually expand and it will progressively become a language of internal communication. A number of persons in the non-Hindi areas may voluntarily adopt Hindi alone, or Hindi and English, or Hindi and the regional languages as media of instruction. Such trends may be permitted and even encouraged. But if the unity of the country is to be preserved, we must firmly enunciate one principle. So long as the Hindi-speaking areas use Hindi and English for the development of higher education in their areas, the people of the non-Hindi areas (who are neither the colonies of the North nor have a second-class citizenship) shall have an equal right to use their languages and English for the development of higher education in their own areas. They will, in addition, agree to acquire a working knowledge of Hindi as the inevitable price of being a minority. But to press them further is to court disaster.

IV. Other Incidental Matters

14. If this fundamental approach of a bilingual solution to the problem is adopted, most of the major hurdles would have been crossed and all that we shall need to decide is a few other incidental matters. These have been briefly mentioned in the paragraphs that follow.

(a) Change-over from English to the Modern Indian

Languages: Change in the medium of instruction at the university stage is primarily for the universities to decide subject to a few broad principles which can be enunciated. For instance, the process of the change-over will have to be carefully planned. There should be no

insistence on any rigid uniform policy and the process may vary from region to region and, even in the same region, from subject to subject. 'Every precaution should be taken to ensure the maintenance of adequate standards and, in fact, the purpose and the desirability of the change should be judged solely by the improvement it makes in the quality and standard of education. There should be no undue haste in effecting the change; but careful action is not synonymous with slow speed or no action at all. In fact, caution is meaningful only when it is tied to a policy of deliberate action.' (7).

(b) Production of Literature in the Modern Indian Languages: Energetic steps should be taken to produce books and literature, particularly scientific and technical, in the regional languages. This is important, not only for developing the use of the regional languages as media of instruction, but also for a variety of other reasons. It would help to bring together the elite and the mass of the community, to advance materially the progress of industrialisation, and to disseminate science and scientific outlook.' (7).

(c) Emphasis on the Study of English and Other European Languages: At all times, there should be an insistence, for purely intellectual purposes, that the students in our universities should have a good knowledge of the English language. The phrase "a working knowledge of English" is generally used. It should be interpreted to imply that 'university students should develop, not just the ability to read and understand standard books and journals in English in a particular subject, but also the ability to express themselves with facility. To this end, it is necessary for students to listen frequently to lectures and write their tutorials in English.' Besides, it must be remembered that, 'modern knowledge is tremendously dynamic. India cannot hope to keep abreast of, let alone add to,

modern knowledge by relying on translations alone. Not infrequently an article is out of date by the time it is translated; we should take care to see that we are not always a step or two behind the technologically and scientifically advanced countries. In order to ensure this, our intellectual elite must have a sufficient command of English, and we would add, where possible, of other foreign languages like Russian, German, French, and Spanish. (8)

(d) Mobility of Teachers and Students: It is also important, in the interest of academic mobility and for other reasons, that a teacher at the university stage should be entitled to lecture in English (even at the undergraduate stage) if he so desires. (7) Similarly, we should adopt such policies in the teaching of languages at the university stage that several persons would acquire a fair command over more than one modern Indian language - and would thus be able to work outside their own linguistic area also. In addition, we should have facilities to train students, quickly and efficiently, in the use of another Indian language if they were to change from one State to another.

(e) Provisions for Minorities: In all parts of the country, it should be open to the people to maintain colleges teaching through the medium of English and these should not be discriminated against in any way. Similarly, the maintenance of colleges teaching through the medium of Hindi in the non-Hindi speaking areas should not only be permitted, but even encouraged. In so far as colleges teaching through the media of Modern Indian Languages other than the regional language of the area are concerned, there need be no obligation on the State to provide all such institutions, except in cases where

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adequate number of students are available. But if any linguistic minority group agrees to maintain such an institution, it should not only be permitted, but even encouraged to the extent possible. The least that could be done is not to discriminate against it.

15. Medium of Instruction in Institutions of All-India

Importance: The all-India institutions of education should preferably function only at the postgraduate stage. Their medium of instruction should be English for a long time to come. When it is proposed to change it to Hindi, care should be taken to see that the interests of the non-Hindi areas are not adversely affected. In this matter, as in other similar situations, the North will have to persuade the South and carry it along rather than try to bend it against the brute force of a majority vote.

J.P. Naik
Member - Secretary

REFERENCES

1. For the medium of instruction in higher education, English may be replaced as early as practicable by an Indian language which cannot be Sanskrit on account of vital difficulties.
2. For various reasons the English language must eventually be replaced by an Indian language or languages as a general medium of higher education. The waste of energy that the foreign medium involves, the burden that it imposes on the intellectual development of our youth, the general blighting effect that the whole situation has on independent and original thinking, and the resultant alienation of the educated classes from the rest of the community, make it imperative that the medium of instruction should be changed. Provided such a change-over is properly phased and made after complete and satisfactory preparations, it would not itself cause any fall in academic standards, and should indeed eventually open the way for their considerable improvement. (Chapter VI, paragraphs 7, 14, 15 and 17).
3. In the Council's view, the change in the medium of instruction is justified not so much by cultural or political sentiments as on the very important academic consideration of facilitating grasp and understanding of the subject-matter. Further, India's university men will be unable to make their maximum possible contribution to the advancement of learning generally, and science and technology in particular, unless there was a continuous means of communication in the shape of the regional languages between its masses, its artisans and technicians and its university men. The development of the talent latent in the country will also, in the view of the Council, be retarded unless regional

languages are employed as media of instructions at the university stage.

4. The importance of having Indian languages as media of instruction from the lowest to the highest stage of education is a matter of profound importance for national integration. There is urgent need to remove the gulf that has existed between the masses of the people and the intellectual elite. For centuries Indian intellectuals had to work in some common language, first Sanskrit, then Persian and recently, English. The gulf between them and the masses of the people has, therefore, persisted. Only the adoption of regional languages as media of instruction right up to the university level will help to remove the gulf.

5. The Vice-Chancellors generally endorsed the Resolution adopted by the National Integration Council at their first meeting on June 2 and 3, 1962.

6. Higher Education should be imparted through the instrumentality of the regional language with the option to use the federal language as the medium of instruction, either in some subjects or for all subjects.

7. Taken from the Paper of Dr. D.S. Kothari.

8. Taken from the Report of the Emotional Integration Committee.

A note on the Medium of Instruction in Universities
and English.
(By Shri S.R. Dongerkerry)

No one today would contest the proposition that the mother-tongue is the most natural and, therefore, the most effective medium of instruction at the primary stage of education. Article 350A of the Constitution of India which confers on linguistic minorities the right to receive instruction in their mother-tongue at that stage is based on this principle. Since the secondary stage provides a more advanced education to enable pupils to follow a vocation after they leave school and also prepares them for higher education in technical institutions or in the universities, instruction in secondary schools is given in the regional language or in any other language mentioned in the Eighth Schedule of the Constitution.

Language experts like Otto Jespersen have said that the immense practical advantage of acquiring knowledge, particularly at the school stage, in one's own language cannot be gainsaid. At the university stage, too, it is generally agreed that the regional language, if not the mother-tongue, would be the most natural medium of instruction. In many of our universities, however, English is still the medium of instruction.

One of the most important causes of deterioration in the standards of university education in our country in recent years has been the inability of students in colleges to follow the lectures delivered in English by their teachers, since the instruction received by them at the secondary stage was through a regional language and they could not acquire an adequate proficiency in English. The assimilation by them

of the content of knowledge through an unfamiliar language like English can, at best, be imperfect, and to write their answers in their examinations in the same unfamiliar language is a further, and even greater, handicap to them. The universities have adopted certain steps to overcome these difficulties such as (1) permitting students to answer their question-papers in the regional language, (2) giving them special coaching in English in the pre-university class and (3) instructing the examiners to attach more importance to the contents of the answers than to their language. Universities have also been assisting in the training of college teachers in the new methods of teaching English as a foreign language, recommended by special training institutions like the Central Institute of English at Hyderabad.

It seems inevitable that, sooner or later, all our universities will adopt the regional language as the chief medium of instruction for undergraduate classes to help their students to overcome the hurdle of learning through an unfamiliar language like English that confronts them on their joining a college. At the same time, it is important to bear in mind that, while lectures are important for communicating knowledge, books are much more important at the university stage. Unlike school teachers, college teachers have to guide their students in acquiring knowledge through the independent study of books, and not merely to provide them with pre-digested knowledge culled from books by way of lectures, notes and summaries.

Whatever be the medium of instruction, students at the university level must be provided with the key to the vast treasures of knowledge in the several branches of study with which they are concerned in the shape of

existing literature, and with easy access, especially at the postgraduate level, to the ever-swelling stream of research journals that keep flooding the libraries of universities and colleges. This is so, because the functions of modern universities are no longer restricted to the transmission and dissemination of knowledge and culture, but include the advancement of the frontiers of knowledge in the various fields of study such as the arts, science, technology, agriculture and medicine by promoting research and scholarship.

Sentiment apart, the regional languages do not provide the key to modern knowledge in the way and to the extent that the English language does. The wealth of literature available in English today, whether in the form of original works or translations, in all branches of knowledge, especially in science and technology, is so vast that the English language has been rightly described as providing a window on the world. If India is to keep abreast of the other advanced countries of the world, especially in science and technology, so indispensable for survival in the present-day competitive world, teachers and students at all higher levels of education must have easy access to modern knowledge through an international language like English.

The elimination of English as the medium of instruction in favour of a regional language is bound to reduce the skill of the students in using the English language as an instrument both for the acquisition of knowledge and for expressing themselves when they wish to communicate with the outside world. The need for universities to maintain international contacts cannot be over-emphasized. Such contacts through travel, learned conferences, seminars and other meetings with

scholars, scientists and teachers for the exchange of ideas, discussion of common problems and formulation of programmes in educational, social, economic and political spheres are indispensable for those who work in the universities, if they want to keep in step with their counterparts in the rest of the world. The progress of knowledge in science and technology is becoming more and more a matter of co-operative and team work. The knowledge of English is a valuable asset as a means of communication and collaboration with international organization. In this connexion it is worth quoting paragraph 12 of the Statement issued by the National Integration Conference, held at New Delhi in September-October 1961, which reads:

" This Conference accepts the proposition that the study of English is important from the point of view of international communication and the growth of modern knowledge generally, and more especially in science, industry and technology. This would be necessary at all stages of higher education, particularly so at the level of postgraduate study and advanced research."

The need of maintaining inter-State contacts is no less important than that of maintaining international contacts. Until a common, Indian language like Hindi is sufficiently developed to serve as a 'link' language for this purpose, the study of English, which serves this purpose today, will have to be maintained by all our universities. Such contacts will become all the more urgent to counteract the isolation of our universities from the rest of the country, when they adopt the regional language as the medium of instruction, thereby rendering difficult, if not preventing, the migration of teachers and students from one university

to another. As pointed out by the Education Minister, when he inaugurated the Education Commission on the 2nd October, 1964, it is only through national integration that we can have a national system of education.

All that has been stated above underlines the need of making provision in every university in the country for the teaching of both English and Hindi as compulsory subjects of study at the undergraduate stage. The study of both these languages, which are compulsorily taught at the secondary stage today, should be continued at least up to the end of the first year of the three-year degree course or of the Intermediate stage, as the case may be, so far as Hindi is concerned, since this is the stage at which there is a branching off to the professional courses in medicine and engineering. The study of the English language, however, needs to be continued throughout the entire course for the first degree in general education, as a sound knowledge of the language is indispensable for postgraduate study and research.

The 'three-language' formula, with the modifications made by the National Integration Conference in 1961, provides for the study of

- (a) the regional language;
- (b) Hindi or, in Hindi-speaking areas, another Indian language; and
- (c) English or any other modern European language

(Vide paragraph 9 of the Statement issued by the Conference), adding that the study of English and Hindi should be begun at an early stage (Vide paragraph 13,).

In my opinion, the study of English must begin, at the latest, in standard V, when the child is about 10 years of age, while Hindi may be taught from

standard III or IV in order that the child may not be burdened with the study of two new languages at once in the same standard. The standard of the teaching of English calls for improvement both in secondary schools and in colleges to prevent further deterioration, when it is displaced as the medium of instruction by a regional language at the university stage and becomes merely a subject of study. Otherwise, English will become as unfamiliar to the student as any other European language such as French or German which is taught twice or three times a week in our schools and colleges, the knowledge thus acquired being inadequate for the independent study of literature, or for expressing oneself in either of those languages. For bringing about the needed improvement the following steps are suggested:

1. the appointment of better qualified teachers;
2. the adoption of improved methods of teaching, such as those recommended by the Central Institute of English at Hyderabad;
3. the allocation of more periods to the teaching of English in the weekly time-table.

At the university level the emphasis in the teaching of English must be shifted from the study of literature to the study of the language for developing the powers of comprehension and expression rather than the appreciation of literature or the graces of literary style. Drastic changes in the courses of study as well as in the method of teaching are, therefore, called for. Greater attention will have to be paid to the structure of the English language, its vocabulary and contemporary usage than to the pursuit of literary grace.

Even when a regional language is adopted as the medium of instruction, English will have to be continued as a parallel medium for the benefit of students coming

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from a different region who are unfamiliar with the regional language, as well as of students wishing to proceed to the United Kingdom or the United States of America for higher studies. The student and his parent or guardian should be given the freedom to choose the medium of instruction between the regional language and English.

THE RECRUITMENT AND PREPARATION
OF TEACHERS

by
Lionel Elvin

You are going to advise governments on educational development in relation to economic and social needs, and in particular you are going to consider such educational development in the light of needs for manpower. Well, what is manpower? The term is not used to describe newly-born babies, nor even healthy boys and girls. Economists use the term for grown men and women who in any but the most primitive societies have had to be educated to some degree or other and have been given training, more or less, so that they can play a proper part in the economy.

How do we get educated and trained? Not, assuredly, just in the course of nature without quite deliberate arrangements made by our elders. There is more than one novel picturing what happens when a group of children is wrecked on a desert island with no one to educate them and bring them up in the way they should go. The result is far from a Rousseau-istic idyll. We of course get educated and trained, not by ourselves unaided, but with the help of older people who educate us and train us. That is obvious. But the point is worth making at the beginning, because it indicates that the supply and preparation of teachers is a crucial factor in all that you plan to do.

There is hardly a country at the present time in which teacher supply is not a serious problem. That is because in all countries the educational system is expanding. The problem is as perplexing and disturbing in the educationally-advanced countries as in the less-advanced. Both the United States and the United Kingdom are complaining

of an almost desperate shortage. You are going to a kind of middle group of countries in southern Europe, and for these some lessons may be drawn both from the more and the less advanced, though it must always be remembered that the problem takes distinctive forms according to the stage of development a country has reached. That stage, for "your" countries is one in which, while primary education has to be made fully universal the distinctive problem is the generalisation of secondary education so that it is no longer confined to a small elite.

This reminds us that education - teaching, everything that goes on in schools and universities, educational planning - takes place in a social setting. It is the great temptation of planners who sit with their papers in an office to forget this. Will you therefore allow me one other introductory remark? Get into the schools of the country you are going to! See and hear and even smell what they are like. See the real conditions in which teachers have to teach and children have to learn. And consult with the teachers, directly and through their organisations, about your plans. Unless you do this, and further unless you have a feeling for the whole way of life of the people with whose education you are concerned, plans that look fine on paper will certainly come to grief.

Factors Affecting Requirements for and Supplies of Teachers

Now let me come to my subject proper. I will start with some general considerations and then examine these more closely in the light of conditions in countries which are not simply under-developed, nor yet developed in a modern sense, but somewhere in between.

You might suppose that once a Minister of Education knows that he will have a certain fund of financial

Resources for the expansion of education his first task will be to get schools built. That is not really the first thing. The first thing is to make sure in advance that he will have teachers to teach in the schools when he has built them. This is not simply because you can, in some sense and in some climates, have a school without a school building; whereas, in spite of learning machines, you can't have one without a teacher. It is because the education and the professional training of a teacher take longer than the mere building of a school. The International Educational Conference called jointly by UNESCO and the International Bureau of Education at Geneva a few years ago got out a scheme of logical priorities in educational planning, placing teacher supply as the first priority, above even the provision of buildings. It is absolutely necessary to know before each new step in expansion is taken that there is a reasonable prospect of having a sufficiency of teachers, of a quality and with an education and training appropriate to the purpose.

This very general statement has to be broken down into its parts. A mere overall number that seems all right will not serve. I will look more closely at some of these parts in a moment or two, but meanwhile a few of them may be mentioned. Sights must be set for a teacher-pupil ratio that is regarded as reasonable in all the circumstances. And here again a mere average will not do: some schools, for instance many in rural districts, have to be small, and so do some classes, as in the upper secondary school where young people are specialising in their studies; and these instances of inevitably small classes cannot justify over-large classes elsewhere, even though the average may look about right. Then, again, there may have to be a certain broad proportion between men and women teachers. And that is connected with

the degree to which there is co-education; the extent to which women teachers get married and the degree to which they leave school permanently when they do get married; and lastly with general social and educational considerations which may prompt a larger number of women entrants than would be justified by economic considerations alone, a man who stays his whole life in teaching being a better investment than a woman who leaves to marry at twenty-three or twenty-four. There are also regional inequalities to take into account, inequalities that may indeed be obscured by merely national figures. There must also be consideration of the supply of teachers for the separate levels of the educational system - primary as distinct from secondary education, or general and classical as distinct from technical; and of the supply of teachers for special subjects, so that the lack of qualified teachers of mathematics, for example, is not disguised in some overall figure because there is a good supply of teachers of history.

I rehearse all these now, without going into detail in order to make one clear point: there must be a competent statistical branch in every Ministry of Education. It must be empowered to get all the necessary returns; from the schools and from the localities and regions. Its work, too, must not be wholly internal to the Ministry of Education. It must either be a branch of a Central Statistical Service or it must work in very close relationship with it. It has to know demographic trends. It needs to have the earliest possible warning of any trend that may endanger teacher supply, such as the increasing pull of branches of industry on technical teachers or physicists or a tendency towards earlier marriage that may increase "wastage" from the teaching profession.

Since it takes so long to educate and train a future teacher it is essential that these early warning signals really work. We have had a sad experience in the United Kingdom recently: after years of confident expectation that we should have no shortage of teachers until at least the later "sixties", it was suddenly discovered not only that there would be a second "bulge" in the population after the post-war one had worked its way through the schools, but that the tendency of young people to stay on at school voluntarily was getting more marked, and that young women teachers were getting married and leaving at an alarmingly increased rate. I would only add that if these statistical services are necessary for ensuring teacher supply in the advanced countries they are no less so in the less-developed countries. The scarcer resources are, the more necessary it is to have reasonably firm ground under the planner's feet.

Now let us look a little more closely at some of the particular factors in teacher supply, especially as they affect countries in the position of those to which you are going. We might look first at the teacher-pupil ratio. When I said that in this matter sights should be set, I had in mind something that must be empirical and that should change in the direction of improvement as development takes place. What has to be remembered, though, is that each new step in development is likely to call for an increased number of teachers which means that there will be a transition period of difficulty until the increase of supply, already of course prepared and planned for, will set things right again. But despite such short-term fluctuations, there ought to be steady improvement of the position over the long term. There are bound to be temporary departures from the target ratio established - unless the target has been set too low. But it is important that these departures be regarded as something wrong, something that must be ended as soon as

possible.

The problem of the teacher-pupil ratio is linked with the pattern of school structure in a country. You will have to consider the desirability of maintaining the small rural school, and especially the one-teacher school. On the face of it the one-teacher school is very inefficient. What happens when the one teacher is "ill"? And surely it is educationally wrong to expect one teacher to teach children of a whole range of ages in one group together. On the other hand there may be social reasons for not merging a small rural school into a larger central one. The small school may mean much to a hamlet, and its physical location may be such that travel to another school, especially in winter, puts too great a strain on the children. By and large, however, the tide is running against the one-teacher school for the simple reason that rural communications are improving. The Dean of the Harvard School of Education said a few years in Greece (and the same is true everywhere) is the country 'bus. Although there may well be exceptions of the kind I have mentioned, I am sure that it is generally true that to place teachers in one-teacher schools is a misuse of teacher manpower and one that in itself is a disincentive to recruitment and continuance in the profession. The teacher is an isolated enough person in the community without this completely solitary confinement.

There has been much interest recently in devices for making better use of the supply of teachers and of putting less emphasis on a mere measurement of size of classes. Any methods which will result in a better deployment of the teaching force within a school are to be welcomed, and no doubt there is often undue conservatism in this matter. It is also true that the total number of children in a school should be in groups of different sizes for different

purposes, from the assembly of the whole school on occasion to the remedial help given to a single child who is falling behind and for whom even a few minutes help at the right moment may make all the difference. All this is true enough, but it must not be allowed to obscure the basic truth which is behind the unanimous demand of teachers for smaller classes. This is that a large class forces the teacher to more authoritarian methods of class control and to more routine, drilling methods of teaching, with much less chance of remedial attention to the individual child who needs it. The essential educational reason (apart from the social ones) for the choice of an independent fee-paying school for their children by parents in the United Kingdom, if they can afford it, is that classes and groups and "sets" within them are so much smaller than they are in the publicly-maintained and free schools. A former student of mine is a headmaster of a large primary school in Jamaica. The building is better than average on the outside, but inside there is no division into classrooms at all. One has a feeling of some five hundred children thrown into a big hall together; and if they all turned up on the same morning there would not be room even so. He said to me in a revealing phrase when I visited him: "I hardly teach: I keep school". He meant that the sheer conditions were turning what should be an educational into a "custodial" institution. When all has been said that can be said about group teaching and the stimulus of the large group for certain purposes, the basic truth remains: there must not be over-large classes if you want real education in the schools. Every country must take periodic stock of the situation, and the teacher-pupil ratio, even if it is a measure in need of refinement, is the best general guide to this that we have.

The next point I want to take up is one I have already mentioned in passing: the balance between the number of men and of women teachers. Most people would agree that there should be a balance; but what is this balance? For education up to, say, the age of fifteen most people would feel there was something wrong if there were twice as many of one sex as of another, either way round, but no one would insist on exact equality. It may well be appropriate that there should be differences between one country and another, if only because of underlying general factors in society, and indeed that in any one country the balance should shift from time to time. Can we disentangle some of the different elements in the situation?

Perhaps the first thing to look at is the general social situation of women. Teaching and nursing are probably the careers that give women the first opportunities to have careers outside the home in any society that is becoming modern in these matters. But do women at this stage of development of a society virtually opt for teaching instead of marriage and a family? In that case what happens as the position changes and on the one hand a greater variety of careers is open to women and on the other teaching and marriage are not considered as virtual alternatives, one precluding the other? These changing factors will certainly affect the supply of women teachers. Again, what is the prevailing climate of opinion about the pay of women teachers as compared with men? This too will affect the supply, both of women and of men teachers. If the economy in general is nearing the "take-off point" for becoming modern, is this going to threaten more the supply of women or of men teachers? Again, do women have reasonable access to higher education, for if they do not there will certainly be an under-supply of women teachers for the upper forms of secondary schools? Indeed,

it is here, that in the countries of the Mediterranean Regional Project there may be a serious deficiency, especially for teachers of subjects, such as physics and chemistry, that have traditionally not been favoured for girls. One partial remedy, in addition to encouraging women university students to take these subjects, is to make secondary schools increasingly co-educational for then men teachers in these subjects can take the girls as well as the boys. But whether this is practical politics will depend on a number of other, and more general, considerations.

Next, the regional distribution of the supply of teachers must be considered. At the conference on Ability and Educational Opportunity called by O.E.C.D. in Sweden in 1961, a paper was presented by M. Jean Ferrez, showing what considerable variation in educational opportunity there was as between departements in France. We can be sure that there is a similar risk of unequal distribution of teachers. This is especially likely to be true in countries where the capital city exercises an especially great drawing power, as with Paris in France and the region of Athens in Greece. Not only do those teachers who belong to these areas have a marked reluctance to teach elsewhere, but those whose origins were in less-favoured areas are most anxious to live their lives in the cultural capital. One moral stands out very clearly for economic planners: this problem is eased in so far as economic development itself is spread out over the whole of a country. But, short of this, there are some ways of mitigating the difficulties. How far, for instance, is the distribution of teachers within central control? In France, the posting of teachers in the lycées is subject to central control, and the new teacher is almost invariably sent to teach in

the provinces before gaining a post in Paris. (On the other hand the posting of primary school teachers is not so controlled, and at the present time there are real difficulties because teachers, often for strong personal reasons, do not wish to teach away from their own area even though in an administrative sense they may be virtually surplus). In England and Wales a quota system is in operation, whereby no local educational authority can recruit teachers above a given number while any other authority is below its quota.

One of the great difficulties of detailed teacher supply is to gain the right distribution of teachers between primary and secondary education. This difficulty is greater if there is a distinct kind of training for the secondary school teacher, so that he is in effect a quite different kind of professional person from the primary school teacher. This will be found to be so in all the countries to which you will be going. Indeed, in most of them the very idea that professional training is necessary for secondary school teachers is still incompletely accepted, although it is now fifty years since the objection was decisively dealt with by Durkheim (who, it is sometimes forgotten, held a chair of education, not merely of sociology, at the Sorbonne) when he pointed out that this was the only way to avoid the perpetuation of routine and tradition and to get a fresh current of ideas and practices into teaching, adding that in France the professeurs de lycee were among the most conservative of all professions in their methods.

But, given the idea of training as necessary for secondary schools teachers (and the case is overwhelming as such education ceases to be merely for an able elite and becomes general, so that the teacher cannot simply rely on the academic pertinacity of the pupil), the strict division

between the training for the two kinds of school must be broken down. We faced this necessity in England with the passing of the Education Act of 1944, which made secondary education universal up to the age of fifteen. There are still two ways of taking your training: concurrently with your continuing higher education, or subsequently to it, university students following the latter course and the training college students the former. But this line does not coincide with the division between primary and secondary school teachers: a few university graduates decide to teach in the primary schools and as much as a fifth of the training college population has been going into the secondary schools. This certainly makes for quick adaptation of the system to variations in the balance of supply. At the moment, in England and Wales, we are faced with an especial shortage of primary school teachers, and this is most severe in the infant school. The training colleges have been told that they must not train more than fifteen per cent of their number for secondary schools alone. Since, however, they fear the effect of this on their academic standards and since, in addition, a larger number of their students wish to teach in secondary schools, many colleges have decided to offer combined courses of training which would cross the school age ranges and fit teachers either for the infant and the lower ages of the junior school (i.e. both five to seven and seven to nine year old children), or for the higher primary school ages (nine to eleven) and the lower secondary school ages (eleven to thirteen). This has the great advantage of flexibility; although the first post of a new teacher may have to be where the need is greatest, this initial assignment does not necessarily determine the whole pattern of the future career. The teacher can, for instance start in the upper primary school and later hope to move to the lower

secondary.

But why do we have these divisions between the primary and the secondary school? Not every country does. Sweden, for instance, under its new reforms is introducing a continuous school from the age of entry up to fourteen or fifteen. Indeed the real moment of choice for most young people is at about the age of fifteen, not eleven. At about fifteen most young people know for themselves whether they are "academic" and wish to continue their formal schooling or to go out into the world of work and wages. Selection then, instead of being the imprecise and socially unjust thing it must be at the early age of eleven or twelve, becomes largely self-selection. But this is a wider question than the one we are discussing and I must not go into it now. The point I wish to make is simply that if there is a single school structure up to the age of fifteen then any temporary imbalance between the supplies of those who wish to teach younger and those who wish to teach older children can easily be dealt with. If there is a shortage lower down, every teacher, so to speak, teaches one year lower - a very different thing from having to move from a secondary school to a primary school, which indeed would cause a revolution in most countries where the two systems are quite different. In such countries one cannot of course decree a change overnight. One may, however, work towards it, just as one may work towards a more nearly-unified training system as secondary education becomes general; and, in my opinion, we should certainly do so.

Lastly, under this general heading of the supply of teachers, I must say a little about the provision of teachers of special subjects. This will become increasingly important in the countries you are concerned with, for in

these there is bound to be an extension of secondary education and a widening of the range of the subjects taught. There will almost certainly be a shortfall in the supply of teachers for the physical sciences and for technical subjects. It is essential that steps be taken ahead of time to do what can be done about these deficiencies as secondary education is extended and reformed. Apart from the necessity of estimating the shortfalls statistically, what can be done about them?

Some people have suggested that additional emoluments be given for the teaching of "shortage" subjects. This is rather doubtful short-term expediency. The teaching profession as a whole is bound to resent it. Why should the hard-working teacher of history be given less than the teacher of physics, especially when, as is very likely during a shortage period for the latter he will be a better scholar in his subject with a better college or university qualification in it? There are few devices more likely to cause disharmony and to destroy esprit de corps in a staff common room. Much more helpful would be to spread the idea that a secondary teacher should be able to teach more than one subject, especially in the lower secondary school. Combinations of two foreign languages, of physics and chemistry, or of history and geography are not uncommon. But need we really stop here? What is the basis of the assumption that everybody must be competent in the humanities and an ignoramus in the sciences, or vice-versa? It may be true of a certain number of us, by nature; but usually it is so only because we have made it so, through the kind of education, and the kind of teacher training, we choose to give. I have often recalled ironically that the traditional degree at our University of Cambridge was awarded on examination results in two subjects, classics and mathematics, and that a great number of persons over the

decades took first classes in both; and incidentally a great number of well-qualified men went out to the schools to teach both subjects. Has human nature changed, I wonder, since the eighteenth and nineteenth centuries, so that the human mind is not now capable of such a combination? Of course not; it is our educational practice that has changed. If a boy wants to win a mathematical scholarship to Cambridge now he probably does not touch a Latin or Greek book after the age of fifteen or sixteen, and vice-versa. This is an extreme case for Europe, for in England we foolishly specialise more and specialise earlier than any other country in Europe. But my general point holds; if we want to mitigate the difficulty of teachers supply for certain subjects the most important thing to do is so to educate and train our future teachers that they can in addition to handling their primary subject, help with the teaching of the "shortage" subjects, at least in the lower secondary schools.

This brings me to the end of my remarks on the break-down of the concept of the teacher supply as I outlined it at the beginning of this lecture. But I have as yet said nothing about a matter that is really logically prior to this, and that is the problem of recruitment. I think I have time for at least a few observations about this, and I should like to draw your attention to four factors in the situation.

THE RECRUITMENT OF TEACHERS

First, we must consider the sources from which future teachers can be recruited. In societies with rather limited mobility between classes, becoming a teacher has been a classical "way up" for intelligent young people of the lower income groups. Indeed, there is often a discernible pattern over three or four generations: a father and mother from the working classes (artisans more probably than the

poorest rural workers), the son or daughter a teacher in a primary school, and their child either becoming a teacher in a secondary school or going from the university into the higher professions. It would seem likely that this type of situation will be common for a long while in the countries in the Mediterranean Regional Project. Indeed, in some of them this source of supply cannot yet have been greatly tapped, though in others (Southern Italy, for instance) an economically under-developed region has already developed a tradition of supplying often first-rate recruits to the professions and to administrative life. Broadly speaking we may surely assume that if secondary education is steadily extended a good proportion of the "new" pupils will decide to become primary school teachers, and similarly that as university education is extended a considerable proportion of the "new" university students will become secondary school teachers. (If only for this reason, of course, a country cannot extend any one segment of the educational system without at the same time extending the segment above it, in order to get the necessary teachers.)

Apart from these main sources of regular supply there are special possibilities of recruitment that may be most useful in times of rapid expansion of an educational system. For instance, if there has been "wastage" through the marriage of young women teachers an effort can be made to bring back into the schools married teachers who have already raised their families. Part-time teachers may be used - and may bring fresh reality with them - from agriculture or industry. And for technical education the armed services may well provide part-time assistance. In one of the Mediterranean countries a year or so ago I asked where the best workshops were to be found. I was told that they

were in the technical branches of the armed services. In that country, in fact, some evening technical schools are staffed in part by officers in the technical arms who are able to put in a few hours teaching when the official duties of the day are done.

In these matters of auxiliary supply there is, however, one caution to be observed. The convenience of the conscientious administrator has to be reconciled with the view of the teachers' organisations. These will be anxious not to "dilute" the profession. Now this is not necessarily just tiresomeness nor "the odious breath of monopoly". Every profession, trying to establish itself properly, lays down certain standards of qualification and performance. The teachers of every country have had a great struggle to make themselves into a real profession, and have hardly yet succeeded everywhere in a full sense. The strong desire to do this may at times have a narrow and too self-seeking expression; but essentially it is in the interest of the public. Therefore the use in schools of any persons for teaching who are not professional teachers should be discussed first with the teachers' organisations. With proper safeguards emergency measure will not simply be rejected out of hand: after all the teachers themselves want schools to be fully staffed, for if not it is on those who are there that the extra burden of work falls.

Those who think about teacher supply would no doubt like to know much more than they do as to the reasons that prompt a young man or woman to become a teacher. Why do they? How often are the reasons positive (rather than merely negative - "I suppose I'd better teach")? How far are they mature (not just a reflection of a bright youngster's feeling that it would be agreeable to stay in the

atmosphere of the school)? Equally, one would like to know why otherwise-likely recruits are discouraged from the idea of teaching.

There are two factors that are to some extent within the control of public policy. One, of course, is that of salaries. Now this offers quite particular difficulties in developing countries. In an underdeveloped country the schoolmaster is, locally, quite a figure, almost indeed a great man. He can read and write, help the villager in his contacts with the authorities, and generally be not only a teacher but a fountain of advice to the community. As Goldsmith said of the village schoolmaster two centuries ago,

He talked and talked, and still the wonder grew
That one small head could carry all he knew.

This status might be thought to make up very considerably for poor material rewards. But what is sometimes forgotten is that in such a community, if the teacher is actually not very well paid, his relative remuneration (in comparison with other people in the community) is nevertheless much higher than in a more fully-developed economy. As literacy spreads, as the village becomes less self-contained and new markets and new enterprises develop, the financial position of the schoolteacher becomes relatively worse compared with that of many fathers of the children he teaches. At the same time, as the educational system expands, the item for teachers' salaries becomes a very heavy one in the educational budget. When this single item accounts for about seventy per cent of the recurrent expenditure, as it normally will, even a small general increase in salaries is very difficult for a Minister of Education to accept. Yet the plain truth is that if salaries are not reasonably attractive the right number and the right kind of recruits to the profession will not be forthcoming.

There are, fortunately, certain "fringe benefits" associated with a teaching career. Everyone knows about the long holidays teachers have (though, as one of my old schoolteachers said to me, they become less attractive if you have no money to spend on them). There is no risk of unemployment. There is sometimes a house associated with the post. Occasionally, in some countries, the village primary schoolteacher is expected to perform minor civic duties, for which there is modest additional remuneration. Above all, there is usually a pension to be expected at the ending of the day. All these help to attract to the profession.

But there is one feature of the salary structure that seems not to have been thought out very deliberately. This is the relative attractiveness of the salary at different points in the career. If you are after recruits it is obviously sensible to see that the starting level especially is good. This is only fair in teaching, to compensate for the time spent in education and training while the young teacher's contemporaries have been earning good money in employment. Then again, there ought to be fairly generous differential allowances for posts involving extra responsibility, and extra payments to head-teachers who take account of extra large schools. Lastly, it is very important that when a serving teacher takes the trouble to spend his spare time gaining additional experience and qualifications there should be a recognition of this, according to a formal scale, in his remuneration. All this means that there must be machinery, really trusted by both sides, for the negotiation of teachers' salaries. Financially, and psychologically, this is a matter whose importance cannot be overstressed.

But financial rewards are not all. The general standing of teachers in the community, as we saw with Goldsmith's village schoolmaster, is also of great importance. We all like to stand well in our little communities, and even perhaps to feel that we collectively count for something in the life of the nation. Well, all like to stand well in our little communities, and even perhaps to feel that we collectively count for something in the life of the nation. Well, what is the standing of teachers, and especially of the nation. Well, what is the standing of teachers, and especially of the teachers in the primary schools? Not, it must be confessed, terribly high. The American writer of a quarter of a century ago, Willard Waller, gave a sad account of the matter in his country in his book *The Sociology of Teaching*. He said that local communities made it clear that they expected the teacher to be more than human, especially in morals and behaviour, and then treated him or her as less than human because they were! I think this has changed for the better, at least to some extent, in even "small town" America, but there is still some truth in the comment there and in other countries. You may say that there is nothing that you, as manpower advisers or educational planners, can do about this. In fact there is. The attitude of the public to the teachers is by no means unaffected by the attitude of officials towards them. The way in which an educational administrative officer treats his teachers, in personal courtesy and in public respect, makes a very real impression on parents and public. And that is true of economic "planners" too.

The important thing, as we can see from the example of the Soviet Union in the past few decades, is to generate a feeling that the teacher, with the scientist and the

technologist, is the spearhead of national advance. This makes all the difference, really, to the way the teacher feels about his job and its significance - and therefore to recruitment and supply, as well as quality of effort. What a tremendous thing it would be if these countries of southern Europe, with their great traditions but with their as yet incomplete educational and economic development, could mobilise their teachers in what the latter felt to be a great national drive!

THE TRAINING OF TEACHERS

The second part of the title of this lecture bids me speak, not only about the recruitment of teachers, but about their preparation for their work. I have designedly spent the greater part of my time on the first part, not because I consider the second part less important, but because it is a more academic and professional matter and will concern you as manpower advisers rather less. But before I close I would like to say a few things about the preparation of teachers which will, I think, be of relevance to your work.

There is a familiar, though of course not absolute, distinction between education and training. Education tends to be concerned more with basic knowledge and skills and with subjects studied largely for their inherent interest. Training utilises applications of such knowledge and is concerned with imparting skills that are specific to a profession or even to a single job. The end product of training is a producer or professional person equipped to perform his economic or professional function.

In the professions, however, the distinction may become somewhat blurred: education itself trends in its later stages to be specialised in the direction of the chosen profession, while training is less narrow than it normally is for those preparing for non-professional work.

Hence one can speak of medical or legal education, and some people speak of teacher education, though I admit that I do not much care for the phrase. What may be noted is that sometimes the final years of education and professional training for teaching run concurrently and that sometimes the professional training comes at the end of formal education. This is of no ultimate significance: different methods suit different people and each method has its advantages and disadvantages. The first requirement of a teacher under either scheme - and this is what is important - is that he should be an educated person.

But educated to what level? The general view is that a teacher's own education should have gone through to one level beyond that which he himself will teach. That is to say that a primary school teacher should have completed his secondary education and that a secondary school teacher should have gone to the university or have had some roughly equivalent years of higher education in his teacher training college. But in many low-income countries that standard has not been reached, and probably will be unattainable in the immediate future. The key question here relates to the length of secondary education. If secondary education is divided into two "cycles", a first three years and a second three years, then we can reasonably demand now that the future primary school teacher shall at least complete the first cycle. And there should be steady pressure to see that in due course the requirement is for completion of the second cycle also.

There are interim devices for teacher education and training about which the planner will have to make up his mind. In the well-developed countries there are devices that are now frowned upon but that were once very much

in use. There is for instance the pupil-teacher procedure, whereby a young teacher combines continuance of his own education with learning his metier in a kind of apprenticeship relationship with experienced teachers. This is unsatisfactory, not only because the pressure on the young teacher is too great for him to make much of his continuing education, but because fully-fledged teachers on the job are invariably too occupied with their own work to give adequate attention to the training of the apprentice. Dire necessity may force a country to adopt this procedure in some form or another but the truth is that there is really no substitute for giving the teacher three or four years of education over and above the level he will have to teach, and, in addition, proper professional training in a training college or university department of education.

Again, some countries have offered financial help to students either in their general education or in their professional training if they sign a bond undertaking to become teachers, with the obligation to repay the money if they do not do so. There are countries where this system is still in operation. It is a bad system, however tempting it may be to the supply-minded administrator. On the purely practical side it is difficult to enforce if the young man or woman declines after all to go into teaching. But, more important, it forces a decision as to a career on people who often as yet have not made up their minds, and in fact bribes them, often against their own better judgment. It brings into the profession a number of entrants who do not really want to be teachers - and whom does that benefit? In spite of the temptation it is better not to use such a device.

However, we must bear in mind the actual conditions in countries that have not as yet achieved highly-developed

economies or educational systems. It would be unrealistic to suppose that in such countries training for teaching can come only after a full six-year secondary course. For the present, training colleges will have to accept entrants who have had an incomplete secondary education. And this means that they will have to provide, concurrently with professional training for teaching, a course of higher secondary and lower university education. In these circumstances it is essential to emphasise that such courses are initial courses only and to supplement them with serious schemes of in-service training taken at intervals later on in the teacher's career. These should be on the "sandwich" principle, with periods of practical experience alternating with periods of in-service training in a deliberate sequence. And, where there is a great need for teachers through the school year, to some extent the periods of further education and training can be fitted into the school holiday periods.

One thing that must not be forgotten is that the content and methods of courses in the teacher training programme are of paramount importance for an expanding and modernised educational system. It is here, and it can be only here, that appropriate training can be given for the new subjects that come into the secondary school curriculum. It is here that more modern methods of teaching must be introduced. It is here that the science laboratories must be well-equipped so as to set a standard that teachers will not forget when they get into the schools. It is here that experimental work must be done with new syllabuses, new textbooks and new methods of teaching. It is here that the lesson must be driven home that merely descriptive instead of experimental science teaching is not science teaching at all. It is here that we must get away from old and ineffective methods of language teaching. It is here that we must work

out how to bring history teaching into accordance with the needs of young people in the contemporary world, and especially how to introduce them to living in our modern society. And this is why teachers must be trained in proper teacher-training institutions, and not through pupil-teacher methods which perpetuate old routines when a methodological break-through is needed. A government that is in earnest about educational reform will be well advised to make the teacher-training colleges the very centre of its effort.

In conclusion I will say that in this talk I have not of course taken you very far into professional matters of education; but I have, I hope, indicated to you some of the factors, important to teachers and to educationalists, that planners of education in relation to economic and social needs cannot afford to ignore. The picture that I have given will hold, I think, in a general way for all the countries in which you are going to work. But the detailed way in which it all works out must vary from one country to another, according to its circumstances, its traditions and its possibilities. I think you will find that there could hardly be a more interesting task than the actual working out of it, in terms of individual countries, real communities and people - and above all real human children.

CHAPTER V

ADMINISTRATION AND SUPERVISION OF ELEMENTARY SCHOOLS
WITH SPECIAL REFERENCE TO THE TRANSFER OF PRIMARY
SCHOOLS TO PANCHAYATI RAJ INSTITUTIONS: (AN EVALUATION
OF THE EXPERIENCE GAINED).

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Almost a revolution was made in the history of primary education in Rajasthan when primary schools were transferred to the management of Panchayat Samitis under the Rajasthan Panchayat Samitis and Zilla Parishads Act, 1959. Government has directed that the Committee should suggest 'the most suitable form of administrative machinery for the implementation of the perspective plan for the development of elementary education' (as outlined by us in the preceding two chapters) and from this point of view, 'examine the suitability of the machinery established under the Rajasthan Panchayat Samitis and Zilla Parishads Act, 1959 for the efficient implementation of the large-scale programmes of expansion and improvement visualised in the perspective plan'. As we understand, therefore, Government desires that we should view the problem from two points of view:-

- (1) What has been the actual effect of the transfer of the administration of primary schools to Panchayati Raj Institutions since 1959?; and
- (2) Whether this machinery would be able to bear the burden of the large programme of expansion and improvement of elementary education which is visualised in the next three Plans?

We propose to devote this Chapter to the study of this important problem.

2. Questionnaire and Replies: In view of the importance of the subject, we directed a special questionnaire to this problem. In particular, we would like to invite attention to the following two questions which were posed by us in this regard:

"6. What is your evaluation of the administration and supervision of primary schools by the Panchayat Samitis in Rajasthan since 2nd October, 1959? In particular, please state the effect this has produced on the following, amongst others :-

- (a) Teachers - attendance, morale, involvement in politics, security and other conditions of service, transfer and postings, disbursement of salaries, quality of recruitment, women teachers, etc.
- (b) Rate of Expansion of Enrolment - Whether it has risen.
- (c) Supervision of Primary Schools by S.D.Is. - Whether the quality and quantity have or have not shown improvement.
- (d) Standards of Education - Whether they have risen or fallen.
- (e) Public Cooperation - Whether this has increased or decreased.
- (f) Increase in Resources Available - Please indicate the details of additional resources brought in by Panchayat Samitis.
- (g) Guidance Given to Panchayat Samitis by Higher Officers - Whether adequate guidance from the Education Officers at the District level and above has been made available and whether necessary action has been taken thereon.

"7. Whether, in view of your replies to question Nos. 5 and 6, you feel that the transfer of primary schools to Panchayat Samitis in Rajasthan -

- (a) Should be abandoned?
- (b) should be continued, more or less on the present lines? or
- (c) should be continued with certain modifications? or
- (d) should be enlarged by transfer of additional responsibilities?

Please give the details of your proposals along with reasons therefor.

In your replies, please state the reasons for your views, with special reference to your personal experiences of the administration by Panchayat Samitis."

3. Of the Block Development Officers who replied to these questions, the majority was of the view that the attendance of teachers had improved under Panchayat Samitis Administration and a marked improvement was also noticeable in the disbursement salaries. They, however, felt that the morale of the teachers had been adversely affected; that teachers were generally involved in politics; that they did not feel security in their services; and that postings and transfers were often done on political grounds. There was also the view that the quality of recruitment had gone down because elements of favouritism had crept in. On the whole, they felt that the extent of public participation had increased substantially and that the extent of supervision over primary schools had also improved. But they were of opinion that the guidance by superior officers of the Education Department was not adequate; that the increase in financial resources due to contributions from Panchayat Samitis was negligible; and that the standards had, on the whole, fallen, due partly to large-scale expansion and partly to local interference. Seventeen of these officers felt that the experiment should be abandoned; nineteen advised that it should be continued, more or less on the present lines; fifteen felt that it has to be continued with modifications and only three suggested that it should be enlarged.

4. Twentyfive non-officials replied to the questionnaire and of these, eleven were elected representative of Panchayati Raj Institutions and fourteen were not so connected with the experiment. Among those who were elected representatives of the Panchayati Raj Institutions, the general view was that

the experiment had achieved many good results such as the improvement in the attendance of teachers, regular and quick disbursement of salaries; and greater interest by the local community. They did not generally agree that the morale of the teachers had been adversely affected; nor did they concede that there were many political pressures underlying postings and transfers of teachers or that the standards of education had definitely deteriorated. Their main complaint was that the Department was not taking sufficient interest in the experiment; and, by and large, they pleaded, not only for the continuance of the experiment, but also for its expansion. The position taken in the replies of the fourteen non-officials who were not connected with the Panchayati Raj Institutions was, however, different. They admitted that the attendance of the teachers had improved and that the disbursement of salaries had become more regular. They, however, felt that the morale of the teachers had been adversely affected; that the teachers were generally involved in politics; that favouritism played a large part in recruitment; that supervision had deteriorated; and that increase in the contribution of Panchayat Samitis was negligible. As many as thirteen out of these fourteen persons recommended that the experiment should be abandoned because there is a large interference in the administration of schools by the Office-bearers of the Panchayat Samitis with the result that educational ideas are relegated to the background.

5. Sixtyone Education Extension Officers and S.D. Is. replied to the questionnaire. We found that their opinion was over-whelmingly against the experiment. They admitted that the attendance of the teachers had improved and the salaries were disbursed satisfactorily. But they complained that the morale of the teachers had fallen; that teachers were generally involved in politics; that they had lost a

sense of security in service and that transfers and postings were done, more on political than on educational grounds. As many as thirtysix persons recommended that the experiment should be abandoned; only seven suggested that it should be continued more or less on the present lines; eighteen felt that it should be continued with modifications and only two desired an enlargement of the powers of the Panchayati Raj Institutions.

6. Among the twenty-nine officers of the Education Department, the opinion was also broadly similar. The improvement in attendance and disbursement of salaries was admitted. But the main complaint was the adverse effect on the morale of teachers; their involvement in politics; and loss of a sense of security in service; and frequent transfers affected at the sweet will of political leaders. They strongly felt that supervision had deteriorated and that the standards had generally fallen. Quite surprisingly, however, only nine of these twenty-nine officers have recommended that the experiment should be abandoned. A large majority (twenty persons) were of the view that it should be continued with modifications on the ground that it would be a very drastic step to withdraw the powers once given to a local body.

7. Among the 446 teachers who replied to the questionnaire, we found that may be described as the most hostile criticism of this experiment. They all admitted that the salaries were disbursed regularly. With regard to attendance, however, the majority felt that it had improved while a minority said that the teachers were still irregular in all those cases where they were in a position to establish a satisfactory personal equation with the Sarpanch. Nearly seventy-five per cent of the teachers felt that their morale had been adversely affected and even a larger number was of the view that teachers were involved in politics (385) and that their services were insecure (406). A large majority complained

that postings and transfers were done mostly on political grounds (405) and that supervision had considerably deteriorated. As many as 319 or 72 per cent of the teachers were of opinion that the experiment should be abandoned; 22 or 5 per cent felt that it may be continued more or less on the present lines; 76 or 17 per cent advocated certain modifications; and only 10 persons recommended even the transfer of middle schools.

8. Evidence: In the evidence recorded before us, the views stated above were, by and large, reinforced. In these interviews, however, we had an opportunity of discussing in detail all the various aspects of the problem with these representative groups and could elicit their views on many different aspects of the problem which had not been highlighted in the questionnaire. The general conclusions which we reached on the basis of the replies to the questionnaire and the evidence recorded before us will be stated serially in the paragraphs that follow. As the evidence recorded before us will be incorporated in them at appropriate places, we have refrained from reproducing it separately at this point.

9. Principal Achievements of the Transfer of Primary Schools to Panchayat Samitis: In the evidence given before us, a large number of claims were made in favour of the transfer of primary education to Panchayat Samitis. On the other hand, there was also a severe condemnation of the experiment in several quarters. We, therefore, feel that a discussion of the problem would be facilitated if the principal advantages and disadvantages of the experiment, as evidenced by the experience of the last five years, are first assessed as objectively as possible.

10. Attendance of Teachers: One of the important claims made in favour of the administration of primary education by Panchayati Raj Institutions is that, under it, the attendance of teachers had improved. It was said that, prior to the transfer of primary schools to Panchayat Samitis, the teachers in remote villages used to be very often absent from their posts of duty and that the Inspecting Officers had no means of checking this. It is now claimed that the teachers cannot afford to be absent from the schools because there is a much better watch on their movements. For instance, the Sarpanch of the Village Panchayat, who generally stays in the village, has begun to take interest in the affairs of the school. In addition to the Inspecting Officers of the Department, all the members of the Block Team and the Vikas Adhikaris have begun to pay visits to primary schools. Consequently, the frequency of visits by different officers had increased very considerably and there is no knowing as to when a visitor may pro up in a school. The primary teachers, therefore, remain present in the school for fear of being caught. Some teachers, who gave evidence before us, denied that the attendance of teachers had really improved. They said that some teachers, who have been lucky enough to establish a happy personal equation with the Sarpanch, are still absent from their posts of duty. But we do not think that there are many such cases and on the whole, we feel convinced that the attendance of teachers in primary schools had definitely improved as a result of the transfer of the administration of primary schools to Panchayat Samitis.

11. Disbursement of Salaries: The second important claim made in favour of the administration of primary schools by Panchayat Samitis is that the disbursement of salaries has now become prompter and more regular. This was admitted on

all hand. In the past, the salaries of teachers were disbursed from district headquarters, whereas they are now disbursed from the Panchayat Samiti Headquarters. This has improved the situation and is a distinct gain.

12. Awakening among the Rural Public: In our opinion, a much greater gain has been the awakening among the rural public. In our tours, we had a very clear and unmistakable evidence of the increasing interest which the people of the rural areas are now taking in the development of primary education. Some of them discussed with us, not only the problems of quantitative expansion but also these of qualitative improvement and were concerned at the deterioration of standards. It is impossible to build up a good system of primary education for rural areas unless the rural people themselves are made to take an intelligent interest in it. We believe that a good beginning in this important direction has been made in the Panchayati Raj experiment and through the transfer of primary schools to Panchayat Samitis.

13. Emergence of a new Leadership: An equally important gain of this experiment is the emergence of a new leadership. Under the Panchayat Samitis, a large number of responsible citizens from the rural areas were suddenly called upon to take interest in primary education. They had no past experience of the problem and no proper orientation was organised to prepare them for their new responsibility. Through a process of trial and error, however, a new leadership has come into existence in rural areas and it is giving a significant lead to the development of primary education. In our opinion, this is a very promising sign and a great gain from the experiment.

14. We do realise, however, that some of the leadership

that is coming up under this new experiment is not of the right type and is more concerned in utilising (or abusing) the patronage and power given to it by this system rather in exploring its service-potential to the utmost. Some measures would, therefore, have to be adopted to reverse this situation and to give a dominating voice to the small but promising leadership which has been developing in the last five years. After a careful consideration of the problem, we have come to the conclusion that the present unhappy situation is the result of delegating large powers to the Block level where the requisite leadership is just not available in adequate numbers and that perhaps it would have been better to reserve the more important powers to the District level where such leadership is more likely to be available. In this context, it may be interesting to state some of our findings regarding the type of leadership for education which is available at the block level at present. Out of 232 Panchayat Samitis in the State, we could obtain information on this subject from 185. We found that in 125 of these Panchayat Samitis, there were separate Standing Committees on Education whereas in others, no such separate committees were constituted. Of the members of these Standing Committees on Education/Social Services, the largest number (714) were between 35 and 55 years of age, 417 were between 25 and 35 years; 47 were above 55 and 14 were twentyfive years or below. According to the educational qualifications, only 117 had passed the middle schools, 48 were matriculates, 13 had passed the Intermediate and 17 were graduates, and 5 had a master's degree. The bulk of the members (992) were described as having studies 'below middle' - which may include anything from mere ability to sign one's name to the completion of the primary school. It is obvious, therefore, that, in the situation as it now obtains, it will not be possible to

expect a very enlightened group of persons in each Panchayat Samiti to be in exclusive charge of the development of elementary education. Some Panchayat Samitis are well endowed in this respect; but they are exceptions which prove the rule. Taking an overall view of the situation, however, we feel that the type of leadership that is needed to plan educational developments comprehensively, to raise resources, to control the services of teachers, and to put across a bold and imaginative programme of educational reconstruction, is more likely to be available, in the present circumstances, at the district rather than at the panchayat samiti level. This is one of the main reasons which has led us to recommend the transfer of certain powers from the block to the district level.

15. Other Advantages of the Experiment: So far, we have dealt with what may be regarded as the undoubted achievements of the transfer of primary schools to Panchayat Samitis. In certain other matters, however, the achievements are not so conclusive or universal because they are due, not to the system as such, but to the good and competent individuals who happened to be in power. These may be said as follows:-

(1) Assistance from Development Departments: One reason for the transfer of primary schools to the Panchayat Samitis was the assumption that education would thrive better if it was made to operate, not in isolation, but against the background of other developmental departments like agriculture, public health, animal husbandry, or cottage industries. This is why the development of primary education was made a function of the Panchayat Samitis which had the overall responsibility for a comprehensive development of their areas and the Inspecting Officer of the Education Department who formerly functioned in isolation was made a member of the Block team where he had to work in close collaboration with Extension Officers of the other developmental departments

and under the common leadership of the Vikas Adhikari. The Committee finds that the results obtained on this score have generally depended upon the personality of the Vikas Adhikari, rather than on anything else. We have come across several Vikas Adhikaris who are keenly interested in education and who have utilised all the resources of the Block team for the development of primary education. On the other hand, we have also seen a few instances where the Vikas Adhikaris have shown comparatively little interest in primary education. Under them, the Education Extension Officers have received little help from other members of the block team. On the other hand, they themselves have been compelled to devote a considerable amount of time to non-educational programme.

(2) Increase in Enrolment: Another expectation underlying the experiment of transfer of primary schools to Panchayat Samitis was that the Sarpanch and other members of the Panchayat Samitis would take a keen interest in the expansion of primary education and would assist in bringing more children to schools. Even on this issue, the results obtained are not very conclusive. We have pointed out earlier in Chapter II that the rate of expansion of primary education has slowed down in the third Plan and that the original targets fixed for the Plan are not being reached. The reduction of allocations made to primary education is very largely responsible for this situation and it would not, therefore, be appropriate to blame the Panchayat Samitis for slowing down the tempo of expansion. At the same time, it would be equally difficult to assert that the Panchayat Samitis have made a definite contribution to increasing the enrolment in primary schools or that they have risen to the expectations originally entertained in this behalf. In some Panchayat Samitis, depending upon the personal interest shown by the Pradhan and the Vikas Adhikaris, excellent results have been obtained. In many others, however, the

position has remained unsatisfactory.

(3) Financial Support: The third significant hope underlying this experiment was that the Panchayat Samitis would contribute materially to the increase in expenditure on primary education. The Committee finds that, by and large, these hopes have not been realised. It is true that a good deal of public contribution has been raised for capital works like construction of school buildings in the last five years. But such contribution used to be raised almost to the same extent even before 1959. In so far as recurring expenditure is concerned, we find that only a few Panchayat Samitis have levied additional taxes and also collected them; some have levied the taxes but not collected them; and the largest number of the Panchayat Samitis have made a very little effort to raise additional financial resources to support the recurring expenditure on primary education.

16. Principal Disadvantages of the Transfer of Primary Schools to Panchayat Samitis: We shall now turn to the discussion of the principal disadvantages of this experiment which have since come to light.

17. Transfers and Postings of Teachers: In the evidence given before us, as well as in the data we collected, it was definitely established that the authority to transfer teachers which has been vested in the Panchayat Samitis has been very greatly misused. The transfers are frequent and excessive. In several instances, they have been also absolutely unjustified. We came across the case of a teacher who was transferred ten times in one year. Even admitting this to be an extreme case, we still feel that the transfers are too many. We collected specific information regarding transfers for two years - 1960-61 and 1962-63 - and could get this information from 184 out of 232 Panchayat Samitis. In 1960-61, we found that 4,331 teachers (or 26.3 per cent of the total) were transferred - 1,354 within one year,

1,511 within two years, and 1,466 after two years. In 1962-63, the number of transfers was the same and as many as 5,516 (or 27.0 per cent of the total) teachers were transferred - 3,008 within one year, 1,599 within two years and 1,909 within three years. It is our considered opinion that this abuse of authority to transfer teachers is one of the most conspicuous evils of this experiment and that is the main cause for the demoralisation which is now seen amongst the primary teachers.

18. Morale of the Teachers: We also feel that the morale of the teachers has been considerably affected under this experiment. What we mean is this: Under a good system of educational administration, the teachers' loyalty must be, first and foremost, to his work and to the children whom he teaches. The system must work in such a way that the teacher should feel confident that his good work in the school will be appreciated by the powers that be without any special effort on his part and that, if he fails in this important task, no power on earth would save him from punishment.

It is the creation of such an atmosphere which maintains the proper morale amongst the teachers. This could be maintained in the old days when the Education Department administered the primary schools with little or no political intervention. With the entry of Panchayat Samitis into the picture, the situation is entirely changed. Now the teacher has begun to feel that the most important thing to do is to establish a personal equation with the Sarpanch or the Pradhan. If he can do so, he can get away with any lapse in his professional duty; and that, if he cannot establish this equation, good work in his school alone will not help him in his future career. This change in the atmosphere is most demoralising for the teachers as a whole and is wrought with the most dangerous consequences for the future of primary education.

19. We may also point out that certain casteist and parochial considerations also seemed to have come up.

For instance, we were told that a Sarpanch would always prefer to help a teacher belonging to his caste as against another who does not so belong. This is not unexpected. Similar developments were noticed in other parts of India when primary education was first transferred to the control of local bodies. What is now happening in Rajasthan is a repetition of the same experience.

20. Appointments: The system of recruitment of teachers has not worked satisfactorily. In the Rajasthan Panchayat Service Commission, one member has to travel from district to district for purposes of selection. Under such a system, it is not obviously possible to recruit the large number of teachers which are required annually in every district in good time before the schools begin. Very often, the Commission does not recruit as many teachers as are wanted. Consequently, the Panchayat Samitis recruit sub-standard teachers under the emergency powers vested in them and later on, these 'back-door' recruitment have perforce to be regularised. Allegations of favouritism and nepotism were also made. It was brought to our notice in some cases that, even when trained teachers are available, they were not recruited while others who were not trained and whose general education was also inferior could find a place for themselves in the selection lists. We, therefore, feel that it is very necessary to change the present system of recruitment of primary teachers in the light of the difficulties that have been experienced during the last five years.

21. Supervision: We also had a feeling that, on the whole the supervision over the schools has suffered. By supervision, we mean the technical guidance given to the teacher for improving his work in the school. It is no doubt true that the number of 'visitors' to primary schools has now increased inordinately. The Sarpanchas and other members of the Panchayat Samitis and members of the Block Team and even the Gram Sevaks now pay visits to primary schools.

While such visits may have some value for the purpose of checking irregularities and absenteeism on the part of the teachers, they have hardly any technical significance. In fact, one may even say that beyond a certain limit, they become more of a nuisance than a help and hinder the teacher from working continuously and satisfactorily. What is needed is technical guidance to the teacher. In the present set-up, it can come only from the Education Extension Officers who work at the Block level or from the higher inspecting officers of the Education Department. Both these channels are not functioning satisfactorily at present. In so far as the Education Extension Officers are concerned, the general position is that their responsibility for the improvement of primary school has been considerably blurred. They are no longer in exclusive charge of primary schools and this responsibility is now passed on, in theory at least, to the Vikas Adhikari or the Block Team as a whole. Secondly, the time that they can spare for inspection of schools has been considerably reduced, partly by the administrative duties which they have been compelled to assume and partly by the non-educational work which they are required to do. In so far as higher officers of the Education Department are concerned, they have neither the time nor the inclination to bother themselves with the primary schools. These have been written off from their mental registers as soon as they were transferred to Panchayat Samitis. The net result of all these factors is that, while the school teacher is bothered considerably by a large number of visits from non-technical persons, he does not get the educational guidance which he needs and which only a technical officer of the Department can give.

22. General Conclusions: What then is the general summing up of the results of the transfer of primary schools to the Panchayat Samitis? Have the results been good enough to

justify the continuance of the experiment and even to enlarge it, if necessary, or have they been so bad that it would be better to retrace our steps and again make primary education an exclusive responsibility of the Education Department? We feel that it will be very difficult to give a straight 'yes' or 'no' type of answer to these questions. This is a complex issue - some of the results being good while others have been unsatisfactory. Taking all aspects of the problem into consideration, however, we would make the following recommendations:-

(a) Some of the results of the transfer of primary schools to Panchayati Raj Institutions have been very good. Among these, we would mention (1) the awakening of interest among the rural public in the development of primary education; (2) the emergence of a new relationship in the rural areas; (3) an improvement in the attendance of teachers; and (4) regular and prompt disbursement of salaries. Depending upon the interest of the persons concerned, the experiment has also shown the possibility of (1) strengthening the educational programme with the help of other developmental departments; (2) influencing the public mind in favour of education and enrolling larger numbers of children into schools; (3) raising hitherto untapped resources for the support of elementary education.

(b) On the other hand, some of the results of this experiment have been far from happy. These include : (1) the abuse of the authority for postings and transfers of teachers, (2) demoralisation among the teachers, (3) the upsurge of casteist and parochial considerations in some areas; (4) unsatisfactory recruitment; and (5) deterioration of standards in technical supervision.

23. We cannot, however, judge the issue merely by stating the positive and negative results of the experiment. We must find out whether the unsatisfactory results noticed

above are inherent in the system or whether they are due to some extraneous factors. If the bad results were inherent in the system and incurable, we would not have had any hesitation in saying that our steps should be reversed and the control of primary education resumed by the Education Department. On a careful examination of the problem, however, we feel that the bad results, which have now been seen, are neither inherent in the system nor irremediable. We also feel that they have crept into the experiment because no adequate steps were taken to do the careful planning and preparation essential for a major experiment of this type. The following points may be mentioned in support of this conclusion:-

(a) If the principle that primary schools should preferably be administered by local communities is right, primary schools should have been transferred to Panchayat Samitis in rural areas and to municipalities in urban areas.

In fact, the case for the transfer of primary schools to municipalities in urban areas is even stronger than that of its transfer to Panchayat Samitis in rural areas. In spite of this obvious position, the decision taken by the State Government was partial. It transferred primary schools to Panchayat Samitis in rural areas; but its transfer to the municipalities in urban areas has not been given effect to so far. This has led to a good deal of heart-burning. The rural areas feel that they are required to pay for primary education while the urban areas, which are richer, are let scot-free. In the opinion of the committee, it is this feeling which has largely impeded the collection of funds for the development of primary education in rural areas.

(b) A good deal of misunderstanding arose among the primary teachers who felt that they had lost a number of privileges as a result of the transfer of their services to the Panchayat Samitis. Their seniority was interfered

with; their chances of promotion were reduced; they also lost privileges, such as free education for children, to which they were entitled as Government servants. It is true that the Rajasthan Panchayat Samitis and Zilla Parishads Act, 1959, categorically stated that the emoluments, old-age benefits, service conditions and privileges of the employees of the Panchayat Samitis will be the same as those of Government servants. But the delay in implementing the provisions of the law created an impression to the contrary and the teachers whose services were transferred to the Panchayat Samitis became hostile to the experiment as a whole. Recently, a number of decisions have been taken which, when implemented, will remove all the grievances of the teachers in this regard. The Committee felt that these very decisions, which have now been taken, could have been taken right at the beginning of the experiment. A good deal of mis-understanding and frustration could thus have been avoided.

(c) In a big experiment of this type, it is always necessary to carry on an intensive propaganda to prepare the people for it and also to organise intensive programmes for the training of officials as well as non-officials. The Rajasthan Government did adopt some measures for giving a broad idea of the experiment as a whole to the general public in the rural areas and also for training the office-bearers of the Panchayat Samitis. But in all these programmes, no special emphasis was laid on the problems of the primary schools and on training the non-official office-bearers of the Panchayat Samitis in the administration of primary schools. This had led to several mistakes and to uninformed and harmful experimentation. In the opinion of the Committee, these evils also could have been avoided.

(d) When an experiment of this type in local Government is introduced, the officers of the Education Department

have to develop a new orientation and outlook. In the words of the Lord Ripon (and these were written as early as 1882 when the experiment of local-self-government was first introduced), a system of local Government can only succeed if the officers of Government realised that it was better than the earlier system of auto-cratic (or bureaucratic administration which it superseded. The Committee felt that, by and large, this change of outlook has not come upon the officers of the Education Department and no effective steps were taken to bring it about through a programme of orientation.

(e) In a new experiment of this type, it is necessary to frame clear cut and detailed rules for the guidance of officials and non-officials. Unfortunately, the rules framed by the Rajasthan Government for the administration of primary education were both incomplete and defective. For instance, there were no detailed rules about transfers which has now become a major problem. If detailed rules had been very carefully framed on all aspects of the administration of primary education, many of the problems that have now arisen could have been avoided.

(f) The transfer of primary schools to local control increases, rather than diminishes, the need for supervision and guidance. In an experiment of this type, therefore, it is necessary to provide for adequate supervision and guidance, which necessarily implies larger expenditure. No provision for this was made in Rajasthan.

24. If this thesis is accepted, our position becomes clear. We believe that the transfer of primary education to Panchayati Raj Institutions had been a step in the right direction. It has secured two great advantages which we appreciate, viz., the awakening of public interest in the rural areas in primary education and the emergence of a new leadership. It is also true that simultaneously, a number of evils are also seen in the operation of the system; but

as we have pointed out, these evils are neither inherent in the system nor irremediable. They have arisen largely because of the failure to plan carefully in advance and make the essential preparations. We, therefore, recommend that the experiment of administration of primary schools by Panchayati Raj Institutions should be continued with modifications - modifications which will be essential to overcome the shortcomings which have been seen in the last five years. We shall discuss these modifications in detail in the next Chapter.

EDUCATION COMMISSION
Government of India.

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Placed below is a copy of a Note on Education and Planned Development prepared sometime ago in the Ministry of Education. It gives an idea of the Perspectives of Educational Development over the next three Plans (1963-81) and the problems involved. It may be of interest to the members of the Education Commission.

J.P. NAIK
Member-Secretary.

EDUCATION AND PLANNED DEVELOPMENT
(1966-81)

1. The important role of education in the processes of economic growth and social reconstruction has been stressed in each Five Year Plan. The Report on the Second Five Year Plan stated: "The system of education has a determining influence on the rate at which economic progress is achieved and the benefits which can be derived from it. Economic development naturally makes growing demands on human resources and in a democratic set-up it calls for values and attitudes in the building of which the quality of education is an important element." The Report on the Third Five Year Plan described education as "the most important single factor in achieving rapid economic development and technological progress."

2. Crucial as the role of education is in building up the reservoir of skills and techniques without which economic growth is not possible, it has also yet another responsibility the due discharge of which is no less important for national well-being. Education is a powerful means for the creation of a new social order. The Report on the Third Five Year Plan drew attention to this aspect in the following words:-

"Programme of education lie at the base of the effort to forge the bonds of common citizenship, to harness the energies of the people, and to develop the natural and human resources of every part of the country. Developments of the past decade have created a momentum for economic growth; yet, there are large deficiencies in the sphere of education, which must be removed speedily if progress is to be sustained and enduring. It is one of the major aims of the Third Plan to expand and intensify the educational effort and to bring

every home within its fold, so that from now on, in all branches of national life, education becomes the focal point of planned development."

3. The close and intimate relationship between economic development and education is now so widely accepted that it needs no special pleading. Careful studies, in U.S.A., U.S.S.R, Japan and by Unesco, have established beyond question that, even in terms of economic returns, investment in education pays for itself in the form of increased productivity and higher earning power. It is, however, necessary to emphasise, as was done in the Report on the Third Five Year Plan, that the influence of education is not of a less decisive character in forming social attitudes and behaviour and in promoting social and national cohesion.

4. Education, however, is not a mere abstraction; it is not other than the material shape it takes in the form of institutions with their programmes and the influence that they are in a position to exert individually and collectively. Therefore, if education is to discharge its unique responsibility and make its contribution to national well-being, it must find its expression in a national system of education comprehending the nation's schools and educational institutions.

5. The rapid, even phenomenal, developments that have taken place in the sphere of education during the last 15 year have laid the foundations on which a national system of education can now be structured. We believe that one of the dominant aims of planning for educational development in the Fourth and subsequent Plans should be to carry into effect the concept of a national system of education, that is to say, a system which though various in form is animated

by purposes held in common conviction; is supported and maintained by public funds, where the different stages and branches of education are closely articulated with each other and with national needs, and which ensures the widest measure of mobility from one part of the country to another as well as from one stage of education to another.

6. Some Underlying Assumptions

6.1 Access to education: Education being one of the basic needs of the nation, the expansion of educational facilities at every stage in a form appropriate to that stage is essential. The scale of expansion at the elementary stage is determined by the need to achieve universal education as early as possible and for secondary and higher education largely by the number of pupils who qualify for admission to those stages. The order of expansion thus set for the educational system as a whole has to be recognised and accepted.

6.2 Provision of efficient education: While expansion is necessary, it is equally essential that the education provided by the system should be of a quality to ensure that education serves the social and economic purposes in a technologically developing country with its demands for diversified skills for an expanding scope of occupational opportunities. It is undeniable that the expansion taking place at present is not matched by provision of facilities that would secure educational efficiency and that there is a dangerous erosion of quality. In our view quality and expansion do not form competitive claims; one is not possible without the other. In the Fourth Plan, therefore, it is essential that expansion must be secured at an appropriate level of educational efficiency and due regard for

diversification. Unless this is done, the colossal wastage that is the most disturbing feature of our existing system will continue undiminished and may even grow.

6.3. Intensive Development of leading sectors: While the effort at expansion and improvement in quality must cover the whole range of educational activities, it is necessary that special emphasis should be given to certain leading sectors so that by the end of the Fourth Plan they would have been strengthened and developed to a high level of effectiveness. Such sectors would be those which have the most direct influence on standards and quality in other sectors of education as well as in other spheres of national life.

6.4. Equality of opportunity: Education provides the best means of realising the social goal of equality of opportunity. The concept of equality of opportunity implies to our mind access to Education unhindered by financial and social handicaps, for all Sections and in all parts of the country. It would, therefore, mean that parts of the country, which because of financial difficulties cannot provide educational facilities on an adequate scale for their population, have to be enabled to do so just as much as particular sections of the population or individual pupils need help to gain access to Education. Further more, and this in our view is as important, the educational facilities have to be of an efficient character. An Educational system where the range of qualitative difference is very wide, as it is in our country, between the general run of schools and colleges and others where pupils from higher income groups can gain admission, will make for inequalities. Equality of opportunity must mean

access to Education of a type and standard from which the educated may profit to the full extent of his capacity and aptitude. In the Fourth Five Year Plan special provision on a substantial scale will be needed to draw nearer the goal of equality of opportunity.

6.5 Conservation and Development of Talent: Young men and women with talent represent the nation's most valuable resource. Financial provision for their education as well as instructional programmes in the educational institutions should be so designed that talent is recognised and given the fullest scope for development at its own challenging pace.

6.6. Reducing Disparities: While rapid educational development has taken place in all parts of the country, the gap in the levels of educational achievement between one State and another or between boys and girls has not diminished to any substantial extent. The problem of educational development is becoming more and more the problem of accelerating the pace of development in certain States or for certain classes of people. In the Fourth Plan measures including special financial arrangements should be designed so that the economic backwardness of these States does not hold back their educational development and that the inter-regional and inter-class differences are narrowed down.

6.7. Education as an instrument for national cohesion: Recognising that cultural enrichment, and even educational efficiency depends on the rapid development of Indian languages special emphasis has to be given to efforts for the promotion and propagation of Hindi and other Indian languages.

6.8. Educating the adults for a better life (Social

Education): In the pre-occupation with the pressure generated by increasing numbers in schools and other educational institutions, the problem of adults and adolescents out of school, has tended to be forgotten. The growth of literacy is so halting as to be hardly perceptible. We believe that a programme should be undertaken in the fourth Plan which should aim at liquidating illiteracy within the next twenty years. It should be developed on a systematic basis, mobilising all the resources in the educational institutions and outside.

6.9. Planning for total education: Education is an indivisible whole and yields its best results if treated as such. This is particularly so when educational development is treated as a focal point of all development programmes. The fourth Plan should set a model for an integrated development of all branches of education, (professional, vocational, general and adult) whatever the agencies through which any particular programmes may be implemented.

Perspectives of Development

7. The Planning Commission in its letter of May 19, 1963, has suggested that the proposals for the Fourth Five Year Plan should be formulated in the perspective of development over a period of the next fifteen years. This we have attempted to do in terms of the order of expansion likely to take place during the next 15 years, the supply of the teaching force and the upgrading of the qualitative content of education in the main sectors. It may, however, be pointed out that such a perspective view must necessarily remain incomplete unless the socio-economic dimensions are added to it, which it has not been possible for us to do for lack of information on such vital factors as the projected rate of growth of productivity, income and prices, manpower needs at different levels, employment patterns and the level and composition of the labour force.

8. The factors that determine the magnitude of educational expansion differ from one stage to another. For the age-group 6-14 (which covers the primary stage upto 11 and middle stage of 11-14) universal compulsory education is the ultimate goal. The rate of expansion for 6-11 stage is set by the period within which provision of universal facilities is deemed administratively and financially feasible, and its scope by the rate of growth of population. The rate of expansion at the stage covered by 11-14 age-group will follow the development of 6-11 age-group.

9. The enrolment in the higher reaches of secondary stage corresponding to age-group 14-17 is determined by the upward movement of pupils from the middle stage unless secondary education is made selective. This

stage also marks a division of pupils into those who enter vocational education and those who continue general secondary education. It is necessary that the number of pupils required in vocational education of a terminal character should be clearly identified in the context of the needs of the national economy. In the projections made in the following Table I the total number of pupils at the secondary stage as well as the number of pupils in general secondary school and in vocational education have been shown separately. It has been assumed that by 1975-76, one third of the total pupils in the secondary stage should be in vocational education. It has further been assumed that secondary education will continue to be non-selective that is to say, there will be no restrictions on pupils in their admission to some type of secondary institution on completion of the middle stage.

10. At the stage of higher education, diversification of enrolment into different professional fields and areas of specialisation according to manpower and other needs is of particular relevance in estimating the magnitude of expansion. This can be done more meaningfully only if different types of education at the higher stage are looked upon as an integrated whole for purposes of planning. In the absence of this, the estimates for the next fifteen years cannot but be only projections of existing trends.

11. In the following table I are presented estimates of enrolment at different stages of education projected for the period upto 1981. Since the age-group distribution of population based on the 1961 census is not yet available, no attempt has been made to indicate the enrolment in terms of percentage of age-groups. (This will be done when the population break-up becomes available).

TABLE - I

(Additional Enrolments) (Figures in Lakhs)

<u>Year</u>	<u>Enrolment</u>	<u>Increase</u>
	<u>Primary Stage</u>	
1961	350	-
1966	520	170
1971	720	200
1976	910	190
1981	1010	100
	<u>Middle Stage</u>	
1961	67	-
1966	110	43
1971	190	80
1976	350	170
1981	495	135

* Secondary Stage

<u>Year</u>	<u>General</u>	<u>Vocational</u>	<u>Total</u>	<u>Increase</u>
1961	29	4	33	-
1966	52	5	57	24
1971	82	20	102	45
1976	120	60	180	78
1981	200	100	300	120

** Higher Education

<u>Year</u>	<u>Enrolment</u>	<u>Increase</u>
1961	89	-
1966	13	3
1971	19	6
1976	30	11
1981	50	20

At the above rate of enrolment increase in the percentage of pupils in schools in relation to the different age-groups is likely to be of the following order (This will have to be rechecked when the final figures of population in different age-groups become available).

* Includes enrolment in all types of institutions at the second level.

** Includes only enrolment in arts, science & commerce.

T A B L E - 2

(Percentage of pupils in school)

		<u>1961</u>	<u>1966</u>	<u>1971</u>	<u>1976</u>	<u>1981</u>
Primary 6-11	M	82.6	97.1	100.0	100.0+	100.0+
	F	41.4	53.3	82.0	100.0	100.0+
	T	52.4	80.2	94.0	100.00+	100.0+
Middle 11-14	M	33.2	46.1	60.2	81.5	100.0
	F	11.3	18.2	32.0	69.6	100.0
	T	22.5	32.3	47.5	76.0	100.0
Secondary 14-17	M	19.0	27.3	36.0	47.5	64.0
	F	4.7	7.8	13.5	24.0	38.0
	T	12.1	17.8	25.0	36.0	51.0
Higher Secondary 17-20	M	5.7	6.4	8.0	10.0	14.0
	F	1.2	1.8	2.9	4.8	7.5
	T	3.5	4.0	5.0	7.4	10.9

Note:- In the above table where the enrolment will exceed the population in the age group because of the inclusion of children of neighbouring age-group a + mark has been indicated against 100%.

12. Supply of teachers

The supply of teachers is an index of the manpower needs of the education system as much as the qualitative needs. The total number of teachers required comprises the number of teachers for additional enrolment, the pupil-teacher ratio and the number required to replace those who would retire or leave the profession (the replacement has been calculated at 3.7% annually for primary and middle and 5% annually for secondary).

13. At the primary stage, expansion will continue on a large scale upto 1976; thereafter, it will move at a lower level onwards normal rate. It is therefore envisaged that from 1976 onwards provision should be made for a more favourable pupil-teacher ratio.

14. At the middle stage with increased emphasis on qualitative improvement, the pupil teacher ratio should be improved earlier. This is proposed to be done between 1966 and 1976.

The following Table shows the requirement of additional teachers for primary and middle stage.

T A B L E - 3 (a)

(Requirements of Additional Teachers)

(Figures in lakhs except last column)

Year	Teachers in Position	Pupil-teacher ratio	Estimated additional enrolment	Additional teachers required for			Total for five year period	Annual need
				Enrolment Increase	Replacement @ 18.5%	Improved pupil-teacher ratio		
<u>PRIMARY STAGE</u>								
1961	9.7	36	-	-	-	-	-	-
1966	13.0	40	170	-	-	-	-	-
1971	18.0	40	200	5.0	2.4	-	7.4	148,000
1976	22.7	40	190	4.7	3.3	-	8.0	160,000
1981	28.8	35	100	2.8	4.2	3.3	10.3	206,000
<u>MIDDLE STAGE</u>								
1961	2.2	31	-	-	-	-	-	-
1966	3.3	30	43	-	-	-	-	-
1971	7.0	27	80	3.0	0.7	0.4	4.1	82,000
1976	14.4	25	170	6.8	1.2	0.6	8.6	172,000
1981	19.8	25	135	5.4	2.5	-	7.9	158,000

15. At the secondary stage the requirements of teachers have been worked out separately for vocational and General secondary schools. For general secondary schools it has been assumed that the pupil-teacher ratio will be improved to 20: 1 by 1971. Table 3(b) sets out the additional requirements of teachers for general secondary schools and for vocational schools separately (The replacement ratio for the vocational schools has been taken at 3% annually, while that for the secondary schools at 5% annually).

Table 3(b)

(Requirements of Additional Teacher)

(Figures in lakhs except last Col.)

Year	Teachers in Position	Pupil Teacher ratio	Estimated additional enrolment	Additional Teachers required for			Total for Five Year period	Annual Need
				Enrolment increase	Re- placement@	Improved pupil teacher ratio		
1	2	3	4	5	6	7	8	9

Secondary Stage (General)

1961	1.2	25	-	-	-	-	-	-
1966	2.1	25	22	-	-	-	-	-
1971	4.1	20	30	1.5	0.5	0.5	2.5	50,000
1976	6.0	20	38	1.9	1.0	-	2.9	58,000
1981	10.0	20	80	4.0	1.5	-	5.5	110,000

Secondary Stage (Vocational)

1961	0.25	16	-	-	-	-	-	-
1966	0.31	16	10	-	-	-	-	-
1971	1.25	16	15	0.94	0.04	-	0.98	19,600
1976	3.75	16	40	2.50	0.19	-	2.69	53,800
1981	6.25	16	40	2.50	0.56	-	3.00	61,000

Table 3(c) sets out the additional requirements of teachers for higher education. It is assumed that by 1971 the pupil-teacher ratio will be brought down to 14:1 and by 1976 to 10 : 1.

@ 25% for general and 15% for vocational.

Table 3 (c).

(Requirements of Additional Teachers)

(Figures in Lakhs Except last column.)

Year	Teachers in Position	Pupil-teacher Ratio	Estimated additional enrolment	Additional Teachers required			Total for five year period	Annual Need.
				Enrolment increase	Replacement @ 15%	Improved pupil teacher Ratio		

1	2	3	4	5	6	7	8	9
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Higher Education

1961	0.62	17	-	-	-	-	-	-
1966	0.72	18	4.1	-	-	-	-	-
1971	1.37	14	6.2	0.44	0.11	0.21	0.76	15,000
1976	3.00	10	10.8	1.08	0.20	0.55	0.55	36,600
1981	5.00	10	20.0	2.00	0.45	-	-	49,000

16. Training Needs

The order of expansion of educational facilities at the school level, brings to the fore problem of providing training places to ensure a steady source of supply of efficiently trained teachers. The type of professional training that a prospective teacher receives is one of the important indices of the quality of the educational system. Teacher education in India is undoubtedly the weakest link in our school system.

17. At the primary stage, as is well known, the annual output of trained teachers has so far consistently lagged behind the number of new teachers appointed every year. This has created a backlog of untrained teachers in service, which is estimated at 4 lakhs. If the quality of teachers trained is to be improved, it is imperative to extend the duration of the course. The estimate of the training places required during the next 15 years will, therefore, be determined by the assumptions we make in regard to, (i) the period within which the number of training places should be raised to match the annual requirements of the additional teachers, (ii) the period within which the backlog in the form of untrained teachers in service should be cleared, and (iii) the stages in which the duration of the training course should be extended (extension reduces the annual output from existing training places).

18. The estimates of training needs for primary stage, presented in Table 4 have been made on the following assumptions:

i) A wastage rate of 10% (All those who receive training do not enter the profession and the difference represents wastage).

ii) By the end of 1965-66 as contemplated in the Third Five Year Plan, the training course for primary teachers in all stages will be of two years' duration. This would mean a reduction in the output in the States where at present the training course is of one year only. The training capacity adjusted to a two year course has been shown in brackets.

iii) A proportion of the teachers for the middle stage of education will continue to be trained along with the teachers for primary schools (vide para 1.21).

iv) The annual output capacity should match the requirements of additional teachers by 1976.

v) Since after 1975 the number of additional pupils to be enrolled will decline and the improved pupil-teacher ratio will be introduced, that will be the strategic moment when the training course of two years can be extended to three years. The annual output capacity will automatically get reduced accordingly.

vi) The clearance of the back-log will be spread over 10 years (1966-75). For purposes of estimates this means that to the total number of additional teachers due for appointment will be added a due proportion of the number of untrained teachers in service, the total of the two indicating the requirements of training places.

Table - 4

(Training places of Primary School Teachers)

(Figures in Lakhs)

Year	Number of new additional teachers required annually			Back-log clearance	Total of 4 & 5	Training capacity	Available for appointment (allowing for wastage)	Duration of courses	Difference between supply (and demand - shortage).
	Pri- mary	Middle	Total						
1	2	3	4	5	6	7	8	9	10
1966	1.20	0.36	1.56	0.40	1.96	1.40 (1.00)	0.90	2 years	0.10
1971	1.48	0.56	2.04	0.40	2.44	2.00	1.80	2 years	0.64
1976	1.60	1.03	2.63	0.40	3.03	3.50	3.0		Equal
1981	2.06	0.59	2.65	-	2.65	2.20	2.00	3 Years	

19. The above Table will show that if the annual output is to match the annual requirements, the training.

places will have to be increased by 100% between 1966-71 and by another 75% between 1971-73. If the three-year course is introduced in 1976-81 an imbalance will occur in the form of shortage of trained teachers in 1981 but since universal primary education would have been achieved by then, the subsequent demand will be only in the form of additional teachers for the normal population growth and the replacement. The training capacity as developed in 1981 will match the normal requirements at the primary stage without any surplus or shortage.

20. It follows that if training places are not expanded as envisaged in the preceding paragraph, the period when the annual output will match the annual requirements, as well as the stages when the three-year course can be introduced, will both get postponed.

21. Middle Stage Education

At the middle stage it is envisaged that the number of trained graduate teachers will progressively increase. The training requirements for this stage will, therefore, have to be met by the training institutions for primary school teachers and the training institutions for secondary school teachers in the proportion that the graduate and under-graduate teachers are employed in the middle stages. In the following Table 5 the proportions have been indicated as envisaged upto 1981. The provision for additional training places has accordingly been accounted for in the Tables relating to primary schools and the secondary schools.

TABLE - 5

(Middle Stage - training places)

(Figures in lakhs)

Year	Annual require- ments for addi- tional teachers	To be supplied by		Percentage of graduate staff
		Primary Trng. Instt.	Secondary Trng. Instt	
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
1966	0.36	0.36		
1971	0.82	0.55	0.26	30%
1976	1.72	1.03	0.69	40%
1981	1.58	0.59	0.99	60%

Secondary Education

22. At the secondary stage requirements of training places are determined by subjects and the type of education. The additional requirement of teachers for vocational education have been indicated earlier. The following paragraphs only deal with the requirement of training places for general secondary schools.

23. The enrolment in the general secondary schools will continue to rise rapidly during the next 15 years. At present teachers for secondary schools are prepared through a one-year course of professional training taken after university degree. There is a growing awareness that this arrangement is unsatisfactory and it is necessary that our system of teacher education should move towards providing four-year integrated course to prepare trained teachers for secondary schools.

24. The following Table sets out the estimates of requirements of training places for general secondary schools (including special subjects like Physical Education, Home Science, Crafts, Music etc.) during the next 15 years. These estimates are

based on the following assumptions:

(i) During the next 15 years it will not be possible to fill the gap completely between demand and supply unless the incidence of wastage is substantially reduced. It is estimated that at present there is 30% wastage in the output of trained secondary school teachers. After 1971 the rate of wastage has been taken at 20%.

(ii) The training capacity includes the output of four-year courses. It is envisaged that during 1966-71 such training courses will be introduced on an experimental basis; in 1971-76 they will have been expanded sufficiently to account for 20% of training capacity and between 1976-81 the contribution of these courses should amount to 50%. That is the stage when it will be appropriate to bring the training of primary school teachers and the training of secondary school teachers into closer relationship.

(iii) The peak of the demand for trained teachers is likely to ease after 1981 and the requirements can then be met from the training capacity developed by 1981.

(iv) The training capacity during 1963-71 and 1971-76 will have to be doubled, and increased by 45% between 1976-81. Expansion at a higher rate than this, in an effort to match the requirements and supply, may not be feasible without affecting quality.

T A B L E - 6

(Requirements of Training Places
for General Secondary Teachers)

Year	Number required annually			Train- ing capa- city	Availability (allowing for wastage)	Gap between Supply and Demand
	Middle Stage	Secondary Stage	Total			
<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
1961				25,000	17,500	
1966	20,000	50,000	26,000	35,000	24,500	- 1,500
1971	26,000	50,000	76,000	70,000	49,000	- 27,000
1976	69,000	58,000	1,27,000	1,40,000	1,12,000	- 15,000
1981	99,000	1,10,000	2,09,000	2,00,000	1,60,000	- 49,000

25. Since secondary schools, both vocational and general, require subject teachers, the supply in the total ensured by expansion of training capacity would not necessarily meet the requirements of secondary school unless this supply is regulated according to requirements of each subject. The shortage of trained teachers at the secondary stage is created by inadequate supply of teachers of particular subjects. It is necessary that careful estimates of requirements for particular subjects should be prepared by each State since such estimates depend on the curricular pattern and the structure of secondary education. In subjects such as Science and Mathematics, the present shortage is estimated at 40% of the requirements.

26. A study made by the National Institute of Education of the National Council of Educational Research and Training suggests that during the Fourth Plan the requirements for additional teachers in the main school subjects (other than special subjects) are likely to be as follows:

(i)	Languages	---	37,000
(ii)	Social Studies	---	61,000
(iii)	Science	---	40,000
(iv)	Mathematics	---	18,000
(v)	(thers	---	4,000

27. The conclusion stands marked out: provision has to be made in the Fourth Plan, on a scale not done before in the previous Plans, for increasing training places and improving the quality and standards of teacher education both at the primary and secondary stages.

SOME PROBLEMS

28. Improving conditions of service for teachers:

28.1 Ever since the first Plan, attention has been given to the problem of improving the emoluments, conditions of service and status of teachers. Improvements have been brought about at all levels of education but they have failed to keep pace with the rising cost of living. For example, between 1950 and 1960 the average annual salary of a primary school teacher increased from Rs. 494 to Rs. 839 and of a middle school teacher from Rs. 682.4 to Rs. 1023.5. A similar increase was recorded in the average salary of a secondary school teacher. The cost of living, however, during this period rose much higher and the teachers lost ground economically. The pressure of rising numbers on limited resources has reflected itself not only in a general lowering of quality in schools but also in slowing down the movement for betterment of teachers' emoluments. Therefore, the problem of improving the teachers' emoluments is as urgent, if not more, than it was ever before. The programmes of educational development cannot prosper unless the teaching force is reasonably well-paid and is professionally soundly trained.

28.2 In our view the structure of emoluments and conditions of service of teachers should conform to the following main principles:

(i) The basic level of salaries and other emoluments should be such as to ensure that persons of requisite calibre and educational attainments are attracted to the profession;

(ii) Since in the teaching profession at every level of education there are posts carrying different degrees of responsibility, the pay structure should be

such as to ensure a higher level of emoluments for posts of higher responsibility. Such, for example, are posts of Headmaster of a school, staff of a training institution, subject Heads in a big secondary school, teachers in charge of guiding trainees, etc.

(iii) A teacher's professional growth while in service is essential for teaching efficiency. There should, therefore, be incentives built into the emolument structure so that teachers who better their qualifications or acquire additional qualifications are suitably remunerated. Similarly, a person with higher qualifications who chooses to enter the profession at a lower stage of the educational ladder should receive a higher pay than the normal salary of the post. At present the pay structure for teachers has no provision for extra remuneration for higher qualifications whether possessed at the time of entry into the profession or acquired during service.

28.3 In the estimates that have been prepared for programmes in the Fourth Five Year Plan, provision has been made for improving the emoluments and service conditions of teachers. It has not, however, been possible to indicate the quantum of improvement that should be aimed at, since conditions vary from State to State. The problem of teachers' salaries is, however, so vital that it should not be left to chance decisions or ad hoc measures. It appears to us essential that a study at the national level should be made to look into the whole question and prescribe authoritatively the minimum levels of emoluments that must be secured for the teachers in all States.

28.4 In addition (but not as a substitute) to salary improvement, there are certain other benefits which are essential for teachers' welfare and should be provided:

insurance and pension, free education of teachers' children, medical care and treatment, housing and facilities for professional growth.

29. Buildings for Schools:

29.1 One of the most serious problems requiring urgent attention is the provision of buildings for schools. While there can be no two opinions that school buildings must be inexpensive and functionally designed, it is equally beyond question that no school can function at any acceptable level of efficiency if it has no building at all or the pupils are crowded in a totally unsuitable building. No aspect of school education has suffered more by neglect than provision of suitable school buildings. It is a factor in the low efficiency with which most of the schools in the country are at present functioning. Neglect over the years has accumulated a backlog of arrears which only a systematic plan for provision of buildings for schools can clear. It is envisaged that a beginning in this direction should be made in the Fourth Plan.

29.2 From the information collected from the States in connection with the mid-term appraisal of the Third Five Year Plan it was found that ^{at} the primary and middle stage 50% of the schools have no buildings of their own or are housed in totally unsuitable accommodation. At the secondary level and the training institutions it is estimated that 30% of the existing schools and institutions are in this unsatisfactory state.

29.3 In the following Table an estimate has been made of the magnitude of the replacement of existing

buildings (apart from maintenance and repairs) and of the building space required for schools in the coming years:

The estimates are based on the following criteria:

Primary and middle stage	....	15 sq. ft. per pupil (including ancillaries)
Secondary stage	.....	30 sq. ft. per pupil (including library, laboratories and ancillary subjects)
Training institutions for primary school teachers	....	60 sq. ft. per student.
Training institutions for secondary school teachers	....	80 sq. ft. per student.
Hostel accommodation in training institutions for 80% of the students.	....	150 sq. ft. per student (including common areas)

T A B L E - 7

(Estimates of building space required)

(in lakhs sq. ft.)

Year	Primary & Middle Schools	Secondary Schools	Primary Teachers Institutions	Secondary Teacher Institutions	Hostel for Training institutions
1	2	3	4	5	6
Estimated backlog 1966	4695.0	458.0	28.0	0.64	77.0
Addition- al require- d in 1971	4200.0	1350.0	1200.0	2.80	282.0
1976	5400.0	2340.0	1800.0	5.60	444.0
1981	3525.0	3500.0	-	2.10	57.6

29.4 The above Table underlines the urgency for developing a systematic plan for provision of building space for schools and training institutions. It is obvious that if the arrears of essential replacement are not to accumulate in geometrical progression, the Fourth^{Five} Year Plan, should provide for building space for additional enrolment at all stages, in addition to reducing the existing arrears in a graduated manner.

29.5 A building programme of the size which has become inescapably necessary would call for special arrangement for financing and undertaking the construction. While private and community contribution will continue to have a significant role, it will have to be supplemented substantially from public funds and for this purpose financing of the construction programme through loans, as is done in other advanced countries, would need to be undertaken on a much more extensive scale than has been done so far. It might be desirable for each State to create a fund in this regard.

29.6 For carrying out the construction works, an adequate machinery will have to be created in each State (the present machinery is of proven inadequacy). The planning and designing of school buildings to secure functional efficiency and, with greater use of local and inexpensive materials would need special attention.

30. Administrative Procedures

30.1 Though the report on every Five Year Plan has stressed the need for streamlining administrative procedures, the results upto date do not show any perceptible improvement.

30.2 The experience of the Third Five Year Plan suggests the need for greater attention to the following points:

(i) Delays in the preliminary procedures leading upto the point where a scheme enters the stage of implementation have continued unabated. Abnormal delays have occurred, particularly in the implementation of the schemes which involved building component.

(ii) Delegation of responsibility and authority all along the line has not taken place to the extent that the rapidly growing size of the development programmes of education would call for.

(iii) There is not enough recognition of the critical shortage of trained personnel particularly at intermediate and higher levels. This is reflected in the fact that no provision exists in the Second or the Third Plan for training of educational administrators for work at higher levels of responsibility.

(iv) The Plan includes only schemes of educational development which have quantitative or financial aspects. The large and vital sector of educational work covering such areas as curriculum, school organisation and even textbooks lies outside the statement of the Plan. It has been observed that this sector has not been correlated with the Plan. For example, curricular changes are made from time to time without reference to their effect on the programme of teacher training or even provision of staff for schools.

(v) It was expected that a Plan drawn for a period of five years would ensure adequate pre-planning of individual schemes and continuity in the implementation of the schemes from year to year. This has not come about mainly because of the uncertainty of outlays likely to be available through Annual Plans. It appears that the Annual Plan has come to dominate the planning procedures. The implementation of the schemes in the Third Five Year Plan discloses a much greater departure from the schemes as originally envisaged at the time when the Plan was formulated than was found in any of the previous Plans and such departures have invariably the character of ad hoc measures. It appears to us essential that if greater continuity is to be ensured in the implementation of the Plan from year to year, the financial provision for a Scheme over the five year period and its phasing should be treated as available and assumed. At

present there is nothing to distinguish the Plan schemes from the year to year allocation procedures of the pre-planning period.

31. Financial procedures.

31.1 We have not at this stage tried to identify which particular scheme should be placed in the State sector or the Central sector. The method of financing the educational programmes is, however, of particular importance.

31.2 In the First and Second Plans each scheme of development carried its own pattern of assistance. In the Third Plan the general policy was adopted to keep as few schemes as possible in the Centrally Sponsored Sector. Whatever was to be executed by the States was put in the States sector and Central assistance was given for the total outlay under a development head.

31.3 The experience of the Third Plan has clearly demonstrated that this financial arrangement has not proved successful inasmuch as the schemes of qualitative improvement or those which carried a national priority on which the well-being of the educational system depends have tended to get pushed out under the pressure of meeting the immediate needs of expansion.

31.4 The procedure for financing schemes of educational development would, therefore, need to be carefully reconsidered. We are of the view that schemes of national priority of those which have a long-range effect should be indentified and treated as Centrally Sponsored Scheme carrying 100% assistance.

32. Optimum use of investment in education:

32.1 Outlay on education in its aspect of investmrt raises the question whether effective use is being made of such resources within the educational system.

32.2 Att the primary stage the incidence of drop-outs

continues to be high. Since the major portion of this wastage occurs in the first two classes before the pupil has attained even elementary literacy, the expenditure is infructuous to the extent that this wastage occurs. Socio-economic factors undoubtedly might account for a part of this wastage but not for the whole.

32.3 Another problem, that requires consideration particularly with reference to secondary and higher education and training institutions, is of size. A small size institution is not only economically difficult to maintain but also fails to provide for that diversity of programmes which sound education requires. Our training institutions in terms of size and enrolment are the smallest in the world. Both at secondary and college levels preferences for small size institutions is either openly expressed or tacitly assumed. From the point of view of optimum use of educational resources the question is important enough to require fresh consideration.

32.4 Another problem is raised by the incidence of failures at the secondary and higher stages of education. Even in institutions of professional education the incidence of failures is much larger than can be justified on objective grounds.

Education Commission
Government of India

Subject:- Relationships of the Universities and National Laboratories - a memorandum prepared by Dr. N.R. Dhar, Allahabad.

After teaching first in the Muir Central College as Member of the Indian Educational Service and later on as the University Professor of Chemistry in the Allahabad University for over 46 years, I am in close touch with most of the Indian Universities and many Universities of Europe and America. My conclusions for improving University education in Science in India are briefly recorded below:-

1. The Vice-Chancellor should always be an Educationist and normally the Seniormost Dean taking all the Faculties of an University into consideration. This practice is followed in most of the Continental Universities of Europe and works very smoothly. Also, this avoids canvassing and backdoor influence.
2. All the National Laboratories in India should be converted into post-graduate teaching and Research Institutions. Brilliant B.Sc. pass or Honours candidates from Indian Universities should be admitted in these institutions for a 2-year course in M.Sc. followed by a 3-year course of research work leading to the D.Phil. (Ph.D.) degree. The teaching and research work in these Institutions should be carried on by the existing Staff in these Institutions aided by the teachers in the neighbouring Universities and all such students should receive stipends as in the U.S.S.R. and other countries. For example, the National Physical Laboratory should be under the direct control of the Faculty of Science of the University of Delhi and all the teachers in the same Faculty and the National Laboratory should be MEMBERS of the Faculty of Science. Similarly, the National Chemical Laboratory at Poona should be under

the control of the Poona University, so also should be the Tata Institute of Fundamental Research under the control of the Bombay University.

3. The great difficulty at the present moment with the Indian Universities is caused by the inadequacy of funds, which are ample in the National Laboratories and in the Bombay Institute of Fundamental Research, which should come under the control of the Bombay University.

4. Dr. D.S.Kothari and others frequently refer to the snatching away of the University teachers who flock to these National Institutes and the Institute of Fundamental Research. The only way to stop it is to convert the so-called National Laboratories into Advanced Teaching and Research Institutions.

5. I am sorry to point out to Dr. Kothari and to you that the advisers of late Pandit Nehru, in the realm of scientific progress, had little knowledge of the history of development of the experimental method of Science achieved in Europe during the last 400 years. Most European nations have no National Laboratories have been built and manned. I know that the National Chemical Laboratory of England, created a few years back before the Second World War mainly for war work, is not finding a suitable director although the salary is very good, mainly because able scientists prefer to serve in the Universities rather than carry on the routine work in that Laboratory. The National Physical Laboratory of England is just of the same type as the Bureau of Standards of the U.S.A. busy in the testing of apparatus.

6. I feel very strongly that if we can convert our numerous National Laboratories and the Institute of Fundamental Research, which are consuming a very large amount of Indian money and producing little visible and useful results, they should be galvanised and converted for first class scientific education and research work of a large number of brilliant and highly qualified young men and women of India. If the Kothari Committee can achieve this,

-3-

the quality of scientific instruction and research work is bound to improve.

These changes may appear revolutionary, but, they are of fundamental importance for fighting poverty and other evils rampant in India at the present moment.

EDUCATION COMMISSION
(GOVERNMENT OF INDIA)

Sub: Some problems of Pre-Primary Education

Pre-Primary education has been developing slowly and steadily since independence. The number of pre-primary schools recognised by the Departments has increased from 303 in 1950-51 to 1909 in 1960-61 and is expected to rise to 3500 in 1965-66; the total enrolment in pre-primary classes has increased from 28,309 in 1950-51 to 178,642 in 1960-61 and is estimated to rise to 300,000 in 1965-66; the total number of teachers in pre-primary schools has increased from 866 (696 women) in 1950-51 to 4,006 (3,599 women) in 1960-61 and is expected to rise to 6500 (5800 women) in 1965-66; and the total expenditure has increased from Rs. 14.3 million (Rs. 46.4 per pupil) in 1950-51 to Rs. 58.7 million (Rs. 48.5 per pupil) in 1960-61 and is expected to rise to (Rs. 150 million) (Rs. 50 per pupil) in 1965-66. Besides the Central Social Welfare Board and the Community Development Administration has been running about 20,000 Balwadis in rural areas with a total enrolment of about 600,000 and with about 20,000 teachers, mostly women. In addition, there are a large number of pre-primary schools, especially in urban areas which do not seek recognition. The number of such institutions has been estimated at about 12,000 with an enrolment of about 600,000. It may, therefore, be said that the country will have, in 1965-66, about 35,500 pre-primary schools and similar institutions with a total enrolment of about 1.5 million or 3.6 per cent of the corresponding age-group (3-6).

2. The Sargent Plan suggested that the target of enrolment to be reached in 1985 should be one child in every 21 in the age-group 3-6. In view of the progress already made and in view of the large demand for pre-primary education both in urban and rural sectors, it appears that this would be too low a target. It would be more realistic to assume that the target of enrolment in 1980-81 should be about 15 per cent of the age-group (3-6) which will rise to 53.21 million in 1981 or about 8 million.

3. It would be necessary to define the role of the State with reference to pre-primary education. In spite of its significance, it is obvious that it will not be possible for the State to assume direct responsibility for pre-primary education. It is, therefore, suggested that the role of the State in this sector should be restricted to:-

1. Preparation of teachers (inclusive of pre-service and in-service training);
2. Research;
3. Production of literature for teachers in all Indian languages;
4. Conducting of a few model pre-primary schools in different parts of the country;
5. Inspection and supervision of all pre-primary schools;
6. Conducting a few demonstration projects for a comprehensive approach to the problem of child welfare in the age-group 0-14; and
7. Grant-in-aid to pre-primary institutions meant for children of the under-privileged groups in urban and rural areas.

Some of these responsibilities could be discharged direct and others through a grant-in-aid

system.

4. This is an important field in which the local bodies will have a part to play. Government should prescribe rules suggesting a broad policy to be adopted by local bodies in the development of pre-primary education and aid their efforts on the same principles as are applicable to private enterprise.

5. A very large part of the effort in pre-primary education is now being conducted in the private sector, especially in urban areas, and is unaided. This position will continue broadly unchanged in the next 10-15 years. There is no reason to regret this and the State need not saddle itself with an unnecessary burden by trying to aid this effort.

But some methods have to be devised to see that these private pre-primary schools are at least registered (if not recognised) by the Departments so that we at least come to know of them.

6. The State should give a grant-in-aid to pre-primary schools for under-privileged children (to be defined carefully) in the urban and rural areas. The over-all grant-in-aid need not exceed about 40 per cent although in individual cases, it may vary from 0 to 100 per cent. No grants for buildings need be given; they should be restricted to recurring costs and equipment of the most essential and simple kind.

7. Steps will have to be taken to upgrade standards of training institutions for pre-primary teachers (details to be spelt out after a survey) and to revise programmes for pre-primary schools.

8. Two new experiments would have to be tried out. The first should be to educate adult women in better ways to care for children (this could form an integral

part of the adult education programme meant for women); and the second should be to devise a simpler and cheaper method of pre-primary education by training local women (may be with substandard general education) to manage pre-primary schools in their localities with the help of a well-organised central extension service. It is only such a plan that has the possibilities of carrying pre-primary education to the rural areas in a big way. The details of both these bold programmes should be spelt out in detail and discussed with the authorities concerned and the workers in the field.

9. The costs of the programme in 1980-81 may be estimated as follows:-

Capital	To be met by the community.
Recurring	Rs. 70 per child per year, i.e. Rs. 560 million for 8 million children. Rs. 40 million for teacher training, pilot projects, model schools, research & publication, supervision etc. Total Rs. 600 million.

10. Of this, the cost to the State will be:
- (1) Rs. 40 million- For State responsibilities
 - (2) Rs. 260 million- For grant-in-aid for an enrolment of 500 million (the balance of 3 million being in unaided schools)

Rs. 300 million

It will be noticed that the share of the State in the total expenditure on pre-primary education which was about 27 per cent in 1960-61 will rise to about 50 per cent in 1980-81.

Education Commission

Government of India

Vth Meeting

Item No. 9

Subject:- Some Problems of Secondary Education

Secondary education is really the nation-building education and in the complex life of modern societies, it has become the minimum education needed for every citizen. Unfortunately, it remained the weakest link of the educational chain in the British Period and received a very inadequate share of financial allocations. The position has continued almost unaltered in the post-independence period. The development of secondary education would, therefore, have to be given adequate priority and share of funds in the next 10-15 years.

2. Policy: In the post-independence period, there has been a distinct shift in the state policy towards secondary education. During the British Period, not expansion of secondary education was not very rapid, due to several reasons. To begin with, the general view was that secondary education is meant for the few, that it should be provided on a selective basis and that it should be largely fee-supported (in fact, there were, as a rule, restrictions on the minimum fees to be charged and the grant-in-aid from state funds was kept at about a third of the total expenditure), the establishment of new secondary schools was not easy because a number of rigid conditions had to be complied with; and the pressures from below were not large as the expansion of elementary education was slow and there were a number of jobs which an elementary-school-leaver could obtain. Consequently, it was possible to maintain fair standards in spite of the comparatively meagre resources available.

3. The proposals of the Target Plan for the

reconstruction of secondary education were in keeping with this climate of opinion and based on the British practice. It suggested that there should be a test at 11+ and that one child out of every five should be selected and given a good secondary education of six years. This policy has, however, been thrown overboard in the post-independence period and the whole country is now moving in the direction of expanding secondary education to the largest extent possible. This has been due to several reasons: (1) influence of developments in western countries where secondary education is made universal, compulsory and free; (2) the disappearance of the job-values at the end of elementary school so that secondary education has now become the minimum education needed for most jobs; (3) intensive pressures rising from below through the rapid expansion of elementary education; (4) demand from the people, especially in rural areas; and (5) policy of free education, reduction of fees, and liberal fee concessions adopted by Governments.

4. For a modernising society, expansion of secondary education is a programme of great significance. Broadly speaking, therefore, this trend is in the right direction. But the unfortunate part is that it is accompanied by a dilution of standards, failure to vocationalise, and non-development of talent to the full which pose very grave dangers to the future of education and society. A comparison of the state of our secondary education with that in modern societies shows that it has now developed six unwelcome features which have to be eliminated as soon as practicable. These are:-

(1) The springing up of sub-standard schools:

The entire process of deterioration in standards starts with the creation of sub-standard institutions which becomes inevitable when we do not provide the needed resources and also do not control expansion. But it sets in a vicious circle. A dilution of standards at the institutional level (in terms of inadequate and substandard teachers and equipment) leads to rapid expansion which, in its turn, creates still further pressures for dilution and the establishment of new institutions with still lower standards; and so on.

(2) The entry of students with sub-standard

attainments: The passage from elementary to secondary school has been made more and more easy until it has just become a walk-over through a door that is always open. This has diminished motivation for teaching as well as learning and is diluting standards every year by permitting students with substandard attainments to enter secondary schools in ever increasing numbers.

(3) Failure to develop talent to the full:

The policy of free education or reduction in fees has accentuated expansion; but the composition of the students body at the secondary stage is such that its benefits have not always gone to the deserving and underprivileged groups to the extent necessary. Secondly, the absence of an adequate scholarship programme at the middle school and secondary stages keeps many a talented student out of schools, in spite of the expansion. Besides, several talented students do not develop to the full because there is hardly any attempt to ensure that they are placed in good schools and under competent teachers.

(4) Failure to vocationalise adequately: The existing education at the secondary stage is too narrow, academic and substandard and there is no adequate attempt to siphon off students into the vocational courses. Consequently, the average secondary school merely 'fits' a boy for admission to a college (one may even doubt this) and almost 'unfits' him for everything else. This creates pressures on admissions to universities which re-create the same problems in higher education which are all too evident at the secondary stage. Secondly, this also leads to shortages of man-power in certain key sectors of development of industries and other services.

(5) Growing Unemployment: Owing to lack of proper coordination between growth of economy, manpower needs, employment opportunities and the output of secondary schools, the volume of unemployment among the secondary school teachers is increasing continuously. This has become a social malaise, especially in rural areas, where boys are practically being educated to a life of disillusionment and frustration.

(6) Lack of part-time education facilities: Our existing programme of secondary education is almost exclusively whole-time. This keeps out many a deserving student who is compelled to work and earn. Even in a rich country like Japan, 13.7 p.c. of the students in the upper secondary schools were under part-time instruction in 1962. In fairness to the under-privileged group, we shall have to provide similar facilities on a much larger scale. But no such attempt has been made so far.

5. While, therefore our policy of providing secondary education for all who seek it should continue,

it will have to be modified to remove these defects by (1) ensuring that all institutions of secondary education necessarily comply with the prescribed standards; (2) instituting an attainment test for admission to secondary education; (3) organising a good programme of scholarships and ensuring that scholarship-holders get admission to good schools; (4) developing terminal vocational courses on a large scale; (5) providing facilities for part-time education; and (6) relating the expansion of secondary education to economic growth and man-power needs.

6. Establishment of secondary schools: The adoption of targets with regard to institutions and enrolment in secondary education is not easy because a number of complex factors have to be considered. However, some broad considerations in this regard may be indicated. The first refers to the Expansion of Secondary Education in rural areas. Prior to 1921, secondary schools were mostly urban in location. Their extension to rural areas began about 1921, but even in 1951, 53% of the boys schools and 91 p.c. of the girls schools were in urban areas. The process of realisation has been more rapid since then. But even in 1961, 50 p.c. of all secondary schools (44 p.c. of boys schools and 89 p.c. of the girls schools) were still in urban areas which catered only to 17 p.c. of the population! It is obvious that deliberate efforts are needed, in the next three Plans, to expand facilities for secondary education to rural areas.

7. It was from this point of view that an educational survey of India was organised on 31st March 1957. It adapted the following criterion of

establishment of secondary schools in rural areas:-

(i) Habitations with a minimum population of 5,000 should be provided with a high school. Smaller habitations situated within a radius of five miles from an existing high school are also to be served by it.

(ii) Habitations with smaller population are to be suitably grouped for establishing new high schools. The grouping should be done in such a manner that habitations within a radius of five miles from the school to be established and having a total population of 5,000 are to be served by it.

The survey found that about 3,987 new secondary rural schools were needed to reach these goals and that, if these could be established, a secondary school would be available to about 699,000 (or 83.2 p.c.) of the rural habitations within a distance of about 5-7 miles. Although a number of new secondary schools have come up in recent years, their location has not always been rational or in keeping with the survey proposals. It would, therefore, be desirable to repeat the survey again and to adopt a vigorous policy under which a secondary school would be easily accessible for any rural child that desires post-elementary education.

8. Two other unhappy undevelopments of recent years may be noted. The first is the tendency to proliferate secondary schools, for political or parochial considerations, and to establish small institutions which are extremely uneconomic and which tend to be inefficient. Besides, the secondary schools are

very often established in such close proximity to one another as to create an unhealthy and uneducational competition while several areas go without secondary schools altogether. It is, therefore, necessary to adopt a deliberate policy for establishing bigger secondary schools which are more economic and efficient and also to spread them out more evenly on the landscape.

9. From this point of view, it is felt that it would be desirable, while revising the educational survey of 1957, to prepare a comprehensive plan for the development of school education (pre-primary, elementary, secondary and vocational and technical education at the secondary stage) with a district as a unit. Such a plan may be regarded as the educational development plan for the district and should take into consideration the perspective needs of the development of education over the Fourth, Fifth and the Sixth Plans. A detailed procedure for the preparation, finalisation and periodical revision of such plans should also be prescribed, preferably through legislation. The relevant provisions of the Education Act of England, 1944 (Sections 11-13), may be taken as a basis in this regard.

10. Enrolment at the secondary stage: What should be the target of enrolment at the secondary stage? If classes IX-XII (inclusive of P.U.C.) are taken as a unit, in keeping with the new pattern, it may be said that the enrolment at the secondary stage was 13.35 lakhs (11.59 lakhs of boys and 1.77 lakhs of girls) in 1950-51. It rose to 20.12 lakhs (13.33 lakhs of boys and 6.79 lakhs of girls) in 1955-53 and to 31.59 lakhs (25.59 lakhs of boys and 5.90 lakhs

of girls) in 1930-31. By the end of the Third Plan, in 1955-56, it is expected to rise to about 50 lakhs (40 lakhs of boys and 9 lakhs of girls). The figures are exclusive of the enrolment in vocational courses. This has increased from 1.32 lakhs in 1950-51 to 2.30 lakhs in 1955-56 and to 4.22 lakhs in 1960-61. It is expected to rise about 7 lakhs in 1965-66. If the present trends continue, it may well be that the enrolment at the secondary stage may rise, by 1981, to 250 lakhs in the courses of general education and to 30 lakhs in the courses of vocational education. In other words, the total enrolment at this stage would amount to about 60 per cent of the age-group 14-17. Such a situation will create the need to raise resources of a very high order. In all probability, these resources would not be forthcoming and consequently, the old story of establishing sub-standard institutions and diluting quality will be repeated. Since standards of education are of very great significance, an attempt will have to be made to keep this expansion within bounds. Secondly, the rate at which vocational courses are expanding is far too slow and this will have to be accelerated. Since vocational institutions are costlier, this will imply a still more urgent need to restrain the expansion of secondary education of the academic type. Our policies in this regard should, therefore, be based on a careful consideration of these eventualities.

11. Probably, the problem needs some elucidation. In 1950-51, 70 per cent of the students who completed the elementary course went in for secondary education. In 1930-31, this ratio rose to 80 per cent. As time passes

and more students begin to complete the elementary school, two trends will be in operation. The first will be a trend to increase this proportion to 90 or 95. Among girls, a rise in the age of marriage - which continues to rise slowly - will have the same effect. The other would be to reduce it below 80 because these new students will come from poorer backgrounds and will not be able to continue at school. On the whole, we may assume this transfer-ratio to remain constant at 80 per cent till 1981. Now two contingencies will arise:-

(a) The wastage at the primary and elementary stage will not decrease very rapidly and will continue to drop about 1 per cent per year only (the present rate). On this basis, of every 100 children who begin in Class I, only 40 will reach Class VII or VIII (as against 25 at present). If 80 per cent of these go on to secondary education, only about 32 per cent of the children who complete the elementary school will go on to secondary education which means that only about 25 per cent of the children in the age-group 14-17 would be enrolled. This, of course, would be quite a manageable number.

(b) On the other hand, we may go in for a programme of intensive expansion and improvement of elementary education so that of 100 children who begin in Class I, about 80 should be able to reach the top class. If, on this basis, the transfer ratio continues to be 80 per cent, about 60 per cent of the children in the age-group 14-17 would be enrolled. This is the estimate given above and it indicates an order of expansion for which we have no funds.

The choice before us, therefore, is simply this:
(1) we can either allow the wastage at the elementary stage to continue unchanged or to change slowly and keep

the transfer-ratio from elementary to secondary stage unchanged, or (2) reduce the wastage at the elementary stage rapidly or even eliminate it completely and cut down the transfer-ratio from elementary, to secondary education drastically to about 30 per cent (from its present level of 80 per cent which is tending to increase to 90 or 95 per cent). On this assumption, the total enrolment in the age-group 14-17 may be about 40 per cent of the age-group which is a manageable number, in view of the financial resources likely to be available. The second of these choices is infinitely better. But it implies (1) a firm stand on the maintenance of standards at the institutional level and (2) the organisation of a qualifying test at the admission to secondary education. Needless to say, this will also reduce grave dangers of large-scale unemployment among secondary school leavers.

12. Standards: The problem of improving standards in secondary education is even more important than that of expansion (in fact, control of expansion has been suggested as a policy merely with a view help in the raising of standards). Here the point is not so much of 'maintaining' standards - there is hardly any point in keeping them at their present level - as of raising them drastically to a level where they could give some comparability with those in advanced countries and of creating a built-in mechanism within the system which would ensure that they would be kept continually rising. This significant programme can be achieved in a seven-point programme:-

(1) To control numbers to the extent possible and to insist on maintenance of adequate standards at the

institutional level;

(2) To organise, as indicated in the preceding section, an intensive programme for the improvement of middle schools so that it will throw up good students and also to supplement this effort with the organisation of a qualifying test at the entrance to secondary schools;

(3) To develop a programme of intensive qualitative improvement at the University stage so that it can throw up good teachers;

(4) To make an intensive effort to improve teaching in secondary schools through provision of better teachers by improving remuneration, service conditions, general education and professional training - both pre-service and inservice;

(5) To reorganise the entire curricula in keeping with modern trends and to introduce new techniques of teaching and evaluation;

(6) To provide essential physical facilities such as land, buildings and equipment on an adequate scale; and

(7) To improve student performance through well-organised programmes of guidance, aid and welfare.

The second of these seven programmes has been discussed in the preceding section and the third will be described in the next section. We shall now briefly examine the remaining five.

13. Maintenance of Standards at the Institutional level:

As was stated earlier, the key to the improvement of standards at the institutional level (1) by defining the minimum standards to be maintained in the institutions of secondary education, (2) by refusing the grant of recognition to new institutions unless they satisfy these standards, (3) by organising a short-term programme of raising the level of all existing institutions to the

prescribed standard at least, (4) by developing evaluative criteria for secondary schools and by grading, with the help of a specially trained inspectorate, all secondary schools on a five-point scale, and (5) by raising the minimum prescribed standards from time to time. Of these five programmes, we have only the first at present; but when faced with political and other pressures, all rules are thrown to the winds and recognition is granted to all types of substandard schools. There is no hope that the officers of the Department alone will be able to withstand these pressures and a drastic reorganisation of the present system of recognition is needed to improve the situation. From this point of view, we may consider the desirability of instituting panel inspections by a Committee of (1) an officer of the Department, (2) a representative of the University, and (3) one or two selected headmasters or educationists. Such panels can be more independent and exacting. It would be necessary to make government schools also apply for such recognition - they are often the worst sinners. All the other programmes are new and will have to be developed afresh.

14. Teachers in Secondary Schools: Standards of education can, for purposes of discussion, be divided in three main groups; standards of teaching; standards of physical plant; and standards of learning. The great weakness of the present situation is that the standards of teaching in secondary education have gone down due to three reasons: (1) unsatisfactory conditions of remuneration, old-age benefits, service and work which do not attract a better type of person to the profession; (2) poor general education; (3) ineffective or poor

pre-service training; and (4) almost total absence of inservice education. All these weaknesses will have to be rapidly overcome.

15. Remuneration: It is no doubt true that the remuneration of secondary teachers would have to be considerably improved. In planning this policy of remuneration, we may consider the desirability of dividing the total remuneration of a teacher into two parts: (1) a basic scale of pay; and (2) an allowance based on some aspects of a teacher's work that gets neglected at present such as correction of exercises, etc. We should also seriously examine the practicability of a total ban on private tuitions and replacing this evil practice by institutionalised special guidance for both the intelligent and backward pupils for which the school would pay. Special allowances may have to be paid to teachers of subjects like English, Science or Mathematics for which teachers are not ordinarily available in adequate numbers. These points are special to secondary education and have been mentioned here. The other general problems of remuneration would be dealt with in a subsequent section on teachers.

16. Qualifications: It is essential to prescribe the qualifications for teachers of secondary stage with reference to the high standards we propose to attain. The following is suggested as a basis for consideration:-

(a) Secondary stage (Grades VIII-X): The Headmaster of the School should, as a rule, be a Master's degree holder with training of one year. Among the other teachers (except those for special subjects like Crafts, Physical Education, Drawing, Music, etc. for which separate qualifications would be provided) at least

one-third should be holders of Master's degree (with training) and the others should be trained graduates. The teachers of special subjects should also have the minimum qualifications laid down for their subjects.

(b) Higher Secondary Stage (Classes XI-XII): The teachers at this stage should all be holders of the Master's degree and should all be trained.

17. There is another point which has to be noted here. We have to make an attempt to get as many first and second class persons as teachers at the secondary and higher secondary school stage as possible. What happens at present is that, although most of the teachers at the secondary stage satisfy the minimum qualifications laid down of being trained graduates, an overwhelmingly majority of them are third class. An attempt to improve this situation should be made in the next three Plans; and the programme of training and in-service education should be intensified on the assumption that, for several years to come, a large majority of the teachers would be third class. It may be said that, if properly guided, they do make good teachers.

18. Still another point has to be noted with regard to the teachers at the secondary (including higher secondary) stage. What happens at present is that they generally satisfy the minimum qualifications prescribed, viz., being trained graduates; but in actual practice, they are required to teach subjects which they had not at all studied for their degree. For instance, a graduate in philosophy is required to teach English, or History or Geography or even Science. The subject knowledge of such teachers, therefore, is generally equal to that of a matriculate or a little more and hence the

standards of education suffer. This is particularly so in respect of the three scarcity subjects - English, Mathematics and Science. No special study has yet been carried out on a large-scale on this subject. But from the small studies conducted here and there, it appears that English is very largely taught by teachers who had never taken it as a special subject for their degree (and the position with respect to Mathematics and Science is also very bad, though it may not be so bad as in the case of English. Geography is mostly taught by teachers who never studied it for their degree; and so on. Such a situation arises from two reasons: (1) the subjects taught at the university stage do not bear any close relationship to those taught at the secondary stage; and (2) the State Governments have not found it practicable to insist on a rule that a teacher in a secondary school must only teach that subject which he had for his degree. It is, however, obvious that this situation will have to be remedied in the future if standards are to be raised.

19. In so far as higher secondary schools are concerned, it will be necessary to insist that the teachers should teach only those subjects which they had taken for their degree. With regard to secondary schools, however, several practical difficulties will arise in implementing such a rule. It is therefore, often suggested that the following alternative methods may be adopted:-

(a) The duration of the training course should be increased to two years, the first year being spent on imparting better subject knowledge and the second on the methodology of teaching.

(b) The American system of an integrated teacher education programme for secondary schools should be adopted in India on a large-scale, on the pattern of

of the Regional Colleges of Education established by the National Council of Educational Research and Training; and

(c) By instituting diplomas in all the secondary school subjects. The duration of such diploma courses should be one year and it should be possible to take them, not only by attendance at a college or a University Department, but also through correspondence. The standard of attainment with regard to subject knowledge at the end of the diploma course should, by a large, be equal to that attained at the end of the degree stage.

20. One essential reform is the prescription of a rule that secondary teachers would be allowed to teach only those subjects in which they have an adequate subject knowledge. Such a rule alone would create the necessary motivation on the part of teachers to acquire such qualifications and would also induce the managements of the schools to select teachers on this basis. Adequate incentives and facilities will also have to be provided to teachers to induce and help them to acquire these qualifications.

21. Upgrading the Qualifications of Teachers in Service:

Once the upgraded qualifications for teachers are fixed, it will be easy to determine the extent to which teachers in service fall short of them and also to devise and cost the different programmes needed to raise them up to the required level. A concrete, well-planned and phased programme of action should be prepared for this purpose on the following lines:-

(a) A definite target date should be fixed say the end of the Fifth Plan, by which all teachers in service barring a few understandable exceptions - should attain the upgraded qualifications.

the upgraded qualifications.*

* For instance, this need not apply to teachers of the age of 45 and above who would mostly retire at the end of the fifty five.

(b) A three-fold programme of facilities, inducements and penalties should be drawn up to reach the target laid down in (a) above. The facilities will include the provision of correspondence courses, grant of study leave or stipends to teachers for regular attendance at institutions (wherever necessary) and the expansion or establishment of institutions needed for the purpose; the inducements should include the provision of advance increments, or grant of higher scales of pay as soon as the upgraded qualifications are obtained; and the penalties should include disallowance of future increments or withholding of higher promotions unless the new qualifications are acquired. The details of these programmes will vary from State to State. But the entire success of the plan will depend upon the care with which a combined scheme of facilities, inducements and penalties will be devised and implemented for this purpose.

22. Recruitment of New Teachers: The position with regard to new teachers is comparatively less complex. Here two steps are needed.

(a) Steps will have to be taken to see that the output of B.As., B.Sc.s., M.As., M.Sc.s., etc. will have to be increased to such a level that ~~there~~ would be no difficulty in recruiting all the teachers needed; and

(b) In recruiting new teachers, every effort should be made to see that teachers with sub-standard qualifications are not recruited. This is a major administrative step where things often go wrong at present and it will be essential to examine the existing recruiting procedures for teachers at all levels and in all States and to take steps to see that they are made

as fool-proof as possible. This will be one of the important studies which the Commission will have to undertake. Where the recruitment of a sub-standard teacher is unavoidable, rules should be framed to the effect that these teachers should attain the prescribed qualifications within a certain time, and at any rate, before confirmation. If such a penal clauses are provided on the one hand and adequate facilities are extended on the other, the new recruits will either have the upgraded qualifications initially or will acquire them soon after their entry into service.

23. The problems of the pre-service and in-service training of secondary teachers will be dealt with in a subsequent section on teachers.*

* The minimum qualifications for elementary teachers may be stated as follows:-

- (a) Primary stage (Grades I-IV): Completion of the secondary school of ten years followed by a special training course of two years. In addition, encouragement should be given to trained graduates to work in primary schools wherever possible. It should also be a convention that the post of Headmasters of bigger primary schools (with more than 200 children) should ordinarily be given to trained graduates, the only exception being that a certain proportion of these posts should be given to non-graduate teachers who have done exceptional work.
- (b) Middle school stage (Grades V-VIII): No person who has not completed a secondary school of ten years and further received professional training of two years should be allowed to teach at the middle school stage. The Headmaster of a middle school should invariably be a trained graduate. Wherever possible, an attempt should be made to increase the proportion of graduates working at the middle school stage, the target to be reached by 1980-81 being to have at least 50 per cent of the teachers at the middle school stage as graduates.

With this modification, all that is said here about secondary teachers will apply, Mutatis Mutandis, to elementary teachers, also.

24. Reorganisation of Curricula: In revising Curricula, it is necessary to treat the entire school stage as one unit. The seven or eight years of this stage will form the elementary school and it will provide an undifferentiated general education to all children. At the secondary stage, differentiation according to the needs, aptitudes and abilities of children will begin and an attempt will be made to provide, what may be called, initial specialisation.
25. Several important problems will have to be decided, apart from deepening the knowledge content of each subject, while revising curricula at this stage. Some of the more important of these are given below:-

(a) The entire scheme of the multi-purpose schools will have to be abandoned. In classes IX-X (or VIII-X), it will be too early to start the different streams as enunciated in the multi-purpose scheme; and in classes XI-XII, the provision of the vocational content will have to be far more than a bias and be orientated very largely to employment and terminal in character.

(b) The study of English will have to begin in Class V (Or VI at the latest) and be continued till class X. It should be intensified in classes XI- XII.

(c) The study of Hindi may begin on an optional basis (optional to English) at the middle school stage, but it should be compulsory at the secondary stage (classes VIII-XII). It is felt that this proposal, taken with (B) above, will enable a student to use English as well as Hindi as associate media at the University stage.

(d) The teaching of a craft should begin at class V and be obligatory till the end of class X. In classes I-IV, its place should be taken up by activities and simple hand-work.

(e) The study of the sciences and mathematics will have to be modernised and deepened on the lines recommended in the Unesco Tea-m report.

(f) A good programme of co-curricular activities, physical education and sports will have to be developed. In particular, programmes will have to be evolved to provide adequate opportunities to children to participate in programmes of national reconstruction.

(g) In preparing the curricula, due regard should be paid to see that the content of education, the co-curricular programmes, and the teaching techniques are all so built up as to be integrally related to the national goals of education.

26. It has to be remembered that it is not enough to revise the curricula once or twice. This has to be a continuous process. We have to be always on the alert to modify or discard ideas that have outlived their utility, to adopt new ideas where necessary, to make a continuous effort to relate our curricula closely to our needs and environment and to keep our standards comparable with those in advanced countries. We have, therefore, to create an adequate machinery to revise curricula from time to time, and to train the expertise needed for the purpose. Such a machinery should be an integral part of the reorganised Education Departments of tomorrow.

27. New Methods and Techniques of Teaching: Closely allied with this revision of the curricula is the problem of adopting new teaching techniques. Our present methods of teaching are outmoded in several ways: they still emphasise 'teaching' rather than self-learning by the students; they are still largely traditional; and they still try to make things 'easy' for the child rather than try to develop his powers by setting him difficult tasks to do. Their pace

of teaching or learning is rather slow and there is no effort to try to teach more and more within the same given time. They still emphasise the 'memory' or information-acquiring aspect too much and do not do enough to promote originality, initiative, or creative, critical thinking. Incidentally, they do not also address themselves to the main problem we have to face, viz. how to achieve quality at a cost which we can afford. There is very little research or experimental work done in the improvement of teaching techniques; and the training institutions - on whom really rests the responsibility to discover new techniques and popularize them - are most often five to ten years behind the progressive schools, not only of advanced countries, but even of those in India itself. We must, therefore, devote considerable attention in future to the improvement of our techniques of teaching. Some very good suggestions have been made in this context by the Secondary Education Commission. These have remained largely unimplemented, mainly because of lack of support in the sector of teacher improvement and creating better methods of evaluation. It will, therefore, be necessary now to make a bolder and more comprehensive approach to solve the problem.

23. Evaluation: Closely allied to the above is the problem of evaluation. It is probably impossible to abolish the external examination in the foreseeable future. Our action programme should, therefore, be based on the concept of a 'revolution from within'. The following programmes may be suggested from this point of view:-

(a) The new concepts and techniques of evaluation should be introduced at the elementary stage also and should be utilised for making admissions to secondary schools;

(b) Evaluation units should be built into each State Education Department and should be responsible for improving the external examinations at the end of Classes X and XII and also for improving the evaluation at the school level. In addition, there should be a Central Unit which will guide and coordinate the work of the State Units.

(c) Suitable techniques and machinery will have to be devised to measure the attainments of students in the basic subjects from time to time so that we could have norms of achievement for individual schools, for district, for States, and even for the nation. This will ensure that it would be possible to coordinate standards of attainment reached at the end of the school stage in different parts of the country and to keep them rising from time to time.

29. Physical Plant: The next item in the programme of qualitative improvement of secondary education is to provide the physical plant, i.e., land, buildings and equipment on an adequate scale. At present, the position in this regard is very unsatisfactory. Even in 1950-51, our secondary schools were but poorly equipped; and during the first three plans, conditions have become worse because the funds provided for capital expenditure are far too inadequate in comparison with new enrolments. The physical facilities provided per student are, therefore, on the decrease, even at current prices and would be much more so at constant prices. The policy in the next three plans should, therefore, be to make larger allocations for capital expenditure and also to see that the cost of these amenities is reduced, to the extent possible, by a carefully organised programme of research. Secondly, an attempt will also have to

be made to secure larger contributions from local communities or ~~greater~~ voluntary support to improve the physical plant of secondary schools. This is an area in which private liberality or local organisations have a significant contribution to make.

30. Special attention will have to be paid to the adequate provision of teaching aids and cultural material. Steps will also have to be taken to improve the quality of text-books, which has become so controversial an issue, will need special attention.

31. Improvement in student performances: Steps have also to be taken to improve student performance. Here a number of measures will be needed:-

(a) Guidance services will have to be improved and provided on a larger scale so that the students would be able to select the type of courses which are best suited to their aptitudes, interests and capacities. Needless to say, the development of these guidance services will have to go hand in hand with the diversification of curricula and the provision for teaching the diversified courses.

(b) A good programme of scholarships will have to be developed to ensure that every talented student - at least the top five per cent of students - are not prevented from receiving the best education possible due to financial or other handicaps. In operating such a programme, care will have to be taken to see that the students coming from rural or poor environments will not be placed at a discount and that all the residents of the country get an adequate share of assistance. Probably one way in which this could be done is to assign a definite number of scholarships, on the basis of population, to each community development block.

(c) Hostel facilities will have to be provided in a large number of secondary schools in order to provide for the needs of talented students, particularly from rural areas. Special methods will have to be devised to run these hostels economically and efficiently. Where necessary, day-study centres should also be established.

(d) The studies of secondary school students now suffer to a great extent because they do not always get all the educational equipment needed (including text books) and do not get it in time. Steps will, therefore, have to be taken to reduce the cost of this educational equipment as greatly as possible; and measures will also have to be devised to assist every student to the extent necessary, to get all the necessary educational equipment in good time. The organisation of student's cooperative book banks in each school might help in this programme. It will also be necessary to extend this programme to include clothing and health services as well.

(e) As stated earlier, arrangements will have to be made, in each school, to provide special guidance needed to the more talented as well as to the backward children.

(f) The adoption of new techniques of teaching will have to be emphasised and particular attention will have to be given to develop self-learning programmes in school work.

32. An important programme of raising standards would be to provide courses at two levels - O-level for the average student and A-level for the more advanced students. This may be done in every subject.

The provision for teaching subjects at A-level may be made wherever teachers and facilities exist and individual students studying on their own should also be allowed to take it, if they so desire. Although it would be optional to the student to take the course at O-level or A-level, gradually the gifted children will take more and more of A-level courses and this will gradually help in raising standards all-round.

33. Grading of Schools: Another device to raise standards would be to introduce a system of 'grading schools' on say, a five-point scale - A to E. It would be necessary to evolve evaluative criteria for secondary schools. We should define norms at two levels - an optimum level which may be called B - and the minimum level which may be called D. Schools above the optimum level may be called A; those between the optimum and minimum may be classified as C; and those below the minimum, may be called E. On the basis of the standard criteria evolved, the staff of a school should be required to evaluate its own work and such evaluation should be finalised by the inspector (or preferably an inspecting panel). If such a programme of periodical evaluations could be organised side by side with a financial assistance programme to help the schools to climb up from a lower to a higher classification, a good qualitative programme would be built into the system - a programme which will continually assist the weaker schools to become good and good schools, to become better.

34. Selected Schools Approach: Since available resources are limited, an effort may be made to attack the problem on two fronts. The first would be to

eliminate all schools that fall below the prescribed minimum standard by helping them to rise higher; and the second could be to develop selected schools to a fairly high level as to set the pace. The target could be to set up one such school in each Community Development block in 1981.

35. Extension Movement: It is necessary to organise a regular extension movement by integrating colleges (and not only training colleges), secondary schools and elementary schools in a nation-wide programme of improving standards. The universities and colleges must accept responsibility for taking some direct measures to improve standards at secondary school level. This can be done by developing, at each college a centre where teachers from neighbouring schools would meet and receive guidance and in-service education and at the same time, the college and university teachers should also visit the secondary schools in the neighbourhood to assist them from time to time. At their own level, the secondary schools should perform a similar service to the middle schools in their neighbourhood and the middle schools, in their turn, should offer a similar service to primary schools in the neighbourhood. Such extension programmes which, like the quality of mercy, are twice blest, should be made an integral part of the routine activities of educational system.

36. School Improvement Programme: One of the important programmes in the qualitative improvement of secondary education (and all that is said here will also apply to elementary education) would be to initiate and maintain a school improvement movement on a nationwide scale. This movement will have to receive:

high priority and emphasis in the fourth and the subsequent plans. The basic assumptions underlying the school improvement programme movement are the following:-

(1) The main spring of the qualitative improvement of education lies in the will and effort of the people concerned with the programme of instruction in elementary and secondary schools: (i) parents or the school community, (ii) teachers, (iii) administrative and supervisory personnel, and (iv) students. An intelligently planned and concerted action on the part of these human agencies, continuously maintained over a sufficiently long period, will become greater improvement in quality than any financial investment, however large, can ever hope to do. The basis of this movement should, therefore, be to motivate these human agencies to put in their best efforts, in a coordinated manner, for the improvement of education and to maintain the tempo of action so generated over a fairly long period, say, the next three plans.

(2) Every elementary and secondary school, even within its existing resources, limited as they may be, can do a great deal to improve the quality of education it provides, through better planning and harder work. This does not mean that no attempt is to be made to improve the physical resources available to the school. In fact, one of the primary objectives of the movement would be to try to provide better physical resources to schools through the combined efforts of the State and the community. But what is emphasized is the possibility of improving the school programme, through better planning and harder work, in spite of the deficiencies in physical resources.

(3) To obtain the best results in a school improvement programme, it is essential to regard each school as a unit, complete in itself, and to prepare a fairly long-range programme for its development, through the concerted thinking of the parents, teachers and supervisors with two specific objectives: (a) to enrol every child, boy and girl, into the school and to make him stay therein till the age of 14 on a whole-time basis, if possible, and on a part-time basis, when necessary; and (b) to provide the best possible programme of education to each such child.

(4) The secret of the success of the school improvement programme lies in two things: (a) intelligent planning, and (b) continuity of effort which should animate all activities in the school, day after day and year after year.

(5) In a situation of the type which we now have in India where human resources are far more plentiful than the physical ones, only these programmes can hope to succeed which under-emphasise the use of physical resources and stress the achievements of the human factor through harder, well-planned and continuous effort. So far, the basic approach in programmes of qualitative improvement has stressed the provision of physical facilities rather than the operation of the human factors. The school improvement programme aims to reverse this process, and to stress the role which the sum total of the combined efforts of teachers, supervisors, parents and students themselves can make to qualitative improvement of education.

If such a movement is to be organised, it will need a reorganisation and training of the Inspectorate,

reorientation of teachers, organised efforts to secure community support and periodical evaluation.

But the effort will repay rich dividends.

37. Vocationalization: Secondary education has to be very largely terminal. We should, therefore, try to vocationalize it to the maximum extent possible. At present, only about 10-12 per cent of the total enrolment at the secondary stage is in vocational courses. The target should be to raise it to 20 per cent at least (and preferably to 30 per cent) by 1981. To this end, we shall have to:-

(a) siphon-off students in trade courses at the end of the secondary stage to as large an extent as possible; and

(b) siphon-off students again at the end of class X into non-academic courses.

(This is the weakest link in our present system. I have very little concrete advice to offer; but the Task Forces on technical and agricultural education will have to do intensive work in this field and this is an area on which the Commission will have to concentrate its attention).

38. Finances:- As at the elementary stage, a sum of Rs. 10,500 million should be utilised at the secondary stage. This may be allocated as under:-

Position in 1981

Rs.

- (a) Enrolment in Classes IX and X - 12 million @ Rs. 375 per pupil as against about Rs. 175 at present. (There is need to increase cost per pupil in general education and decrease that in vocational schools - From the present level of Rs. 500) 4500 million

	Rs.
(b) Enrolment in Classes XI and XII - 8 million at Rs. 500 per student.	4000 million

Total direct recurring costs 3500 million

Teacher-training, administration, supervision, etc. @ 8 per cent of total expenditure. 840 million

Capital costs at about 11 per cent. 1160 million

Total annual 10,500 million cost.

39. Private Schools: Nearly three-fourths of all secondary schools are private and hence any programme of the reform of secondary education will have to take due note of the problems of aided schools. In this context, the following issues are relevant:-

- (1) To define the precise role of the State and local bodies in secondary education;
- (2) To consider how security of service, parity of remuneration, old-age benefits; etc. could be given to the teachers in private schools; and
- (3) The reform of the present system of grant-in-aid.

Since these problems relate to all sectors of education, they will be dealt with in some detail in a later section on Administration.

40. Fees:- An important issue in the financing of secondary education relates to fees. Prior to 1947, the general view was that secondary education should be largely supported by fees. Fees in Government

institutions were kept high and there were curbs on the minimum fees which private institutions could charge. The primary objective of this policy was to reduce the financial burden on the State (the overall grant-in-aid to secondary schools was about one-third of the total expenditure), but it also helped in keeping down enrolment pressures to some extent. During the last 17 years, however, there has been a tremendous change in these policies. There is now a great public demand for making secondary education free and the Congress manifesto issued at Bhubaneswar has declared that the State will provide free education till the end of the secondary stage. This policy has also been implemented in two States so far - Jammu & Kashmir and Madras. In most other States, the free studentships given at the secondary stage have been increased very considerably so that the stage seems to have been wellset for making all secondary education free in the next 5-10 years.

41. Whether this policy is in the right direction is the point at issue. There would have been no objection to it had the benefit of secondary education been equitably received by the different sectors of society. As it is, our secondary education is largely urban, mainly masculine and by and large confined to the economically better-off and socially higher classes. A policy of free education at this stage, therefore, is not likely to help the underprivileged groups to the extent necessary. It may, therefore, be better to replace this policy by a liberal programme of scholarships combined with a

levy of moderate fees. Besides securing additional funds for education, it will also help in controlling pressures of expansion.

42. There is one more point that needs attention. There is a general awakening among the public to demand standards in education and a large number of parents are prepared to pay reasonable charges if good education can be provided to their children. Our present policies insist that the parent should have free but poor education although they are prepared to pay for good education. Probably some latitude in our policy towards the levy of fees will have to be provided so that it could be possible for the schools to charge fees, within prescribed rates, and utilise the proceeds for improvement of standards.
43. The problem of fees is extremely important, not only at the secondary stage but also at the university stage. It has now become an all-India issue, and if any change in the existing policies is needed, a decision will have to be taken on an all-India basis. This is one of the most important problems which the Commission will have to examine.

Paper No.EC/PINF/1

EDUCATION COMMISSION
GOVERNMENT OF INDIA

Subject:- The Major Problem confronting the World
today by Lord Snow.

Placed below is a copy of a lecture delivered by
Lord Snow on the subject of Improving the Standards of Living
in the Backward Countries. A large portion of this lecture
deals with educational problems.

I think that this is a great piece of writing which
would be of interest to the members of the Commission and it
is, therefore, being circulated for information.

J.P. Naik
Member-Secretary
December 12, 1964

To

P.S. to Chairman.
All Members of the Commission.
All Officers of the Commission.

THE MAJOR PROBLEM CONFRONTING THE
WORLD TO-DAY

by Lord Snow

.....

In the world today about half the people in it are suffering from gross physical want.

By want I don't mean anything funny, or fancy, I mean a physical want which has a biological effect; that is, their lives are shortened, they are not getting enough to eat, their children die in large numbers and their existences are, impoverished by the brute face of poverty itself.

This is true of not less than half our fellow human beings.

On the other hand there is about half the world or less where this is no longer true.

In the luckier parts of the world we have to an extent removed gross physical want. I don't mean by that to say that there is not poverty at present, unassuageable poverty, in the lucky countries. But by and large that is being washed away, and if one thinks of the United States, England, most of Europe, the Soviet Union, you can say as a very broad and brutal statement, that much biological suffering is on the way out.

This is a remarkable achievement. It has happened fairly recently; in some of these countries it has happened within our own lifetime and in the last twenty years of our own lifetime; but it has happened.

You have this great disparity between two sets of our fellow human beings; those who are lucky, those who are not lucky.

It is fashionable to call these two groups on the one side the advanced and on the other the developing countries. I believe these are polite words, and should not be used.

In fact they are very misleading words. For the danger is that the advanced countries are at the moment developing very much faster than the unfortunate; the gap between these lives, the gap between the physical tolerableness of life is getting wider and not lessening.

This improvement in biological life in certain parts of the world, in perhaps one half of it, has happened through the impact of applied science. There is no doubt of this; it did not happen by a deliberate use of applied science, it happened through science, in a crude fashion, percolating into the practical life of these societies.

If you looked round the world in the year, say 1500, you wouldn't have found anything like this gap which we now know. The pre-industrial world had its ups and downs, you had places which were occasionally rather better off than others, occasional conglomerations of wealth. But for a very long period, there was something like a rough equality in misfortune among all people of whatever race. It is only in very recent times that the effect of applied science has been felt.

by those of us who were born lucky.

This hasn't anything to do with our national, so far as we know. It has nothing to do with compulsory cricket, or with Latin in lower forms, or with many other Anglo-Saxon institutions which we have a habit of congratulating ourselves upon. It seems to have happened almost by blind chance, by the fact that England was well placed both intellectually and physically to cope with the first wave of the industrial revolution. And from there it spread very fast to the United States, less fast but still quite fast to Western Europe, and so on.

No one knows quite why this happened to us and not to others. One can well imagine the circumstances in which the boot would have been on the other foot. But it did happen, and here we stand, faced with a world where one part needs every kind of assistance into that more fortunate existence which the other part already knows.

If this is so, why can't we do something about it? Why can't this problem be coped with? Why can't the same use of applied science be made to those who have not had it yet?

The simple answer to that is that it can. There has been a great deal of thought on this whole subject. The interesting and on the whole encouraging fact is that there is great unanimity of opinion; people of all races, considering this problem, are fairly well agreed on the problem itself and broadly on the ways to solve it.

But they differ a good deal in their optimism as to whether the problem will in fact be solved. One of the most distinguished of all Asian scientists, a friend of mine, has recently said that he thinks that by 1984 the position will be worse than it is now.

I can't easily accept that view. I am sure he can't, as he is passionately committed to the cause which all of us share. I don't accept his statement intellectually. I believe that, with good fortune and above all with will, the problem can be bitten into.

How long it will take? I would guess that to catch up with the most advanced countries, is going to take the less lucky ones a longer time than we can perceive. Once you have got on this escalator, it is extra-ordinarily hard to get off. America is investing very, very fast indeed.

On the other hand, my own guess is that with will, with a collective human effort, we could probably make life in most poor countries at least tolerable in basic things within about 60 years.

I think of a quotation I have just been reading from someone on the West Coast of Africa, a clergyman, saying, "Many of the things you are talking about are too complicated for even the most intelligent and sensitive of people not born in your society. What I am concerned with is why eight children in my parish die out of every ten before they are one year old." It is that kind of simplicity which I believe faces us, and which gives us a problem which can in hard terms be solved.

Sixty years then seems to me the sort of time-scale I would myself contemplate. How much you can ask one generation to sacrifice for another is a problem which most of us in our fifties have had to think about quite a lot.

If you ask too much, we know by experiment now, it has had results, and worse than bad, in human terms.

On the other hand, if you ask too little, you probably take the purpose out of life.

People are on the whole at their best when they are asked to make some sacrifice, and I suspect it would be salutary for the entire world if many of us had to make more.

Well then - here is the problem, here is a general agreement among people who have thought about it, that it is not impossible to find at least partial solutions, to do something which is manifestly good for our humankind.

Why have we only been playing at it? Why has it really not been tackled to a much greater extent, with much more force, than has so far happened?

Again, my wise Asian friend would say that human selfishness, the complexities of world politics, the cold war, and lesser frictions, are all in fact so much part of our situation that he can't see this ultimate effort being made.

That may be.

Further, there are many examples, as we all know, of human short-sightedness. It is very hard to make any body of people see more than the length of their noses. Political memory often seems to last about a fortnight.

But though these factors exist and we mustn't disregard them, there are other and probably more encouraging reasons why more has not been done.

One is, that the situation itself has not been realised until quite recently. The communications round the world haven't been so complete. Genuinely the knowledge has not been there in a way which is likely to make many men act; the knowledge has had to be searched for.

Now it is present, and can be rammed down peoples' throats and before their eyes.

Secondly, I think even in England or America, it is only fairly recently that the mass of thinking people has realised just what effect applied science has had upon us.

This was only dubiously realised even 30 years ago. Some of you will know one of my private guesses as to why this should have been so slow to sink in. It is because of the lack of scientific education, because there has been a real divide between many of the people active in taking decisions and the scientists

who could have supplied them with the information upon which the decision had to be made.

I think if I were doing that rather, what shall I say, controversial lecture again (The Two Cultures), I should probably put it this way round, and start with the gross physical disparities and sufferings in the world and bring in the lack of scientific education at this point.

It doesn't much matter. I am fairly sure that this lack of scientific education has blinded us to a contemplation of not only our present need but of what can be done about it, of possible activity.

That is an understandable reason why men have been slow to grasp what the world asks of them and what it offers.

There are also more disreputable reasons. It is natural enough that in a revolution as profound as that which the industrial countries have gone through, there should have been much to regret.

We all know this, and the first waves of the industrial revolution in England were not pretty. In all violent convulsion you lose a certain amount, though often you gain very much more. It is perfectly natural that some people should have been so impressed with what has been lost that they lose sight of the fundamental things which have been gained.

By the fundamental things, I repeat again, I mean the removal of the grosser and more naked of physical wants. That is all understandable, though it mustn't last too long.

What is also understandable but far more culpable, is the fact that many people really resent persons having the kind of luck that they themselves have had. In fact they hang on to every scrap and tatter of privilege wherever they get the chance. They go to a holiday resort, and then grudge, not that they are there themselves, but that other people are there to share it with them.

And over the lucky world, there are too many people who are finding the most sensitive excuses for others achieving a bit of material well-being.

They recent material well-being for others in the name of sensitivity, in the name of some strange alienation and protest.

This is a false alienation and a false protest and a false sensitivity.

Anyone who is so lacking in brotherly feeling for his fellow-men, who won't pay a considerable price to see the horrors of physical suffering removed as far as may be, isn't showing the delicacy of his soul, but the reverse.

Here those of us who are preoccupied with this struggle need the help of the third world. For here, you can speak with far more authority than we can. When we say we think it is a good thing for men to have certain

material advantages, a certain material welfare, we are immediately regarded as being lacking in the finer feelings. It is important that you should tell them what the finer feelings are.

No one in their senses has ever thought of the Indians as a materialist people.

They represent the absolute opposite of anything that the world normally knows as materialism. If they say that in fact a minimum satisfaction of the gross biological needs of man is a prerequisite for a decent world, then the world will listen. They will listen to them far more than they will to Western Europeans.

Here I beg of you to throw in your weight on the side of people who are desperately concerned that this simple human achievement should be made.

It may well be that once we have done this, worldwide, not in our grandchildren's time perhaps, but still in time, then maybe the same kind of discontent that the Western world knows, of world-weariness, of existential art, will descend upon people who are now struggling for the simple biological necessities. This may quite possibly happen. I doubt it, but it may. If it does, that is a price which I personally would willingly pay.

Come in and tell people that materialism in the sense we are using it is necessary before we can feel that we are fully men, necessary before we can say we have a decent concern for any one of our human brothers.

We have got to fight it out, we have got to fight it through hell and high water - and a certain amount of abuse. Because, you see, we are saying something intolerable to many, - that it is possible and necessary to improve the condition of most of our fellowmen.

Now I would like to say a little about what has to be done.

It is clear that the accumulation of capital is an absolute necessity before the poor countries can get on to the escalator.

If there is the will, the capital can be found.

This is not easy, but it could be made to happen. Figures often have a simple eloquence of their own; I think I am right in saying that 32 thousand million dollars were paid from America in Marshall Aid to the countries of Western Europe over a period of about five or six years. The total payment to the poorer countries by the whole of the rest of the world over the past decade has been something like 12 thousand million dollars. Much of that has been dissipated by the fall in commodity prices on which most of the poor countries depend. So there, again, there is a major lack in the scale of what is being attempted.

Here once more the third world can help us. Giving and taking is one of the most difficult of

all human situations. If you give something to someone, you are very lucky if you don't stir in him a certain complex of emotions, not all favourable.

If you receive, you stir, both in the donor and in yourself, certain emotions, not altogether favourable.

My feeling here is that we ought to cut away almost all these thoughts of psychological complication.

We tend to become too subtle by far. We can be too sensitive about what we tell you (I am speaking now as a citizen of one of the lucky countries) and I think people in poor countries can be too sensitive about what they tell us.

I believe we've got to feel we are in a common enterprise and that we are dealing with a problem of action.

Action presents its own simplifications and its own morality. Once we decide on that, then many of the minor frictions will begin to disappear.

I would like to come shortly to one of the places where the kind of useful action is fairly easy to foresee. The whole of this operation is very complex, it is very much like a war.

We learnt the last war through Blackett that in war you had always so many variables that you had got to isolate those you could play with and control. The same is true in our common task.

One of these variables is education, one which we can isolate pick out and know something about. This I suggest we should do.

I don't want to give an illusory prospect. It would be possible for a poor country to have perfect education and do very little with it. All one can say - and this is incontrovertible - is that if you don't have adequate education in a poor country then you can do nothing. It is an absolute necessity! There are other necessities but this is an absolute necessity.

Here I would have thought, we can begin to think relatively sensibly in terms of the kinds of education which we all know. I only know three fairly well, and I would like to spend a little of your time by discussing those parts of the educational systems of these three which might be useful in the poorer countries in countries which have to make the leap which we made 150 years ago.

These types of education are our own English one, the American, and the Soviet. All these three seem to me to have their excellences, and from them there are valuable lessons to be learnt, valuable models to follow.

I am inclined to think that the English education is only useful in certain parts. I think we know too little of American education, which has many splendid features particularly at the graduate level, and partly at the college level. I fancy we know too little of Russian high school education, which is extremely impressive and a model of what can be done in a fairly short time and with fairly scanty resources.

I would like to begin from the bottom up. The English are extremely good at educating clever children. Of this there is no reasonable question. We educate them very eccentrically, and we educate them in a far too specialised manner.

But it is remarkable what we do with our brightest. A bright child of fourteen, if he has been lucky in England, is often three or four years ahead of a contemporary in the United States. They catch up between 21 and 23; but the English education of a professional elite is singularly intensive.

The Russians and Americans of course have made a quite different choice. English education was always, and still is, primarily based upon the training of an elite. This is the invisible consistency behind it. That is its aim and the spirit behind it.

The Americans and Russians have made a completely different choice. For not dissimilar reasons, they deliberately chose, at least formally, not to educate a specific elite. High school education had to be open to all.

In Russia this is carried to fairly extreme lengths; you can't go in advance of your age group however bright you are, unless you are a ballet dancer or some other unusual person. It seems to work oddly enough. They seem very good at getting the children to help each other. Some of the moral education is well worth learning from.

The Americans have done something of a comparable kind. The ordinary good American high school is far less elite-oriented than the English. There is a certain change in the last six years in the U.S.A. and now one does find elite programmes and elite schools. But largely, both these great countries have set it as their task to educate a very large slice of the entire population. I am now talking about the northern United States, and those parts of Russia which are not impossibly far from the towns.

The American high schools seem to me, and I think all observers would say the same, to be too little rigorous. They don't teach enough. If you are sociable and active, you have a wonderful time. In fact the happiness of the children is remarkable, and happiness is a good thing; but you can take it too far, and I have never been able to see why happiness can't be reconciled with teaching the children something.

The Russians - I think most observers would again agree - give a broad education, but too rigid - everybody has to do Russian language and literature, foreign language, mathematics, physics, biology. That is fine, and in principle the curriculum is very much as I should myself like. I think they could, with advantage to themselves and others, have a little more play and variety and allow for somewhat different interests and rates of progress. However, it is a very fine working model. I would have thought that in any poor country some model rather like this is no far from the desirable one.

It is necessary that some part of the standard course of any decently intelligent child had some relation, not only to science, which is obvious, but to the way in which science makes wealth.

Most people for a long time in poor countries are going to be concerned with scientific agriculture; this must be the basic concern of most people all over the poor world. The food has got to be grown and you have got to have innumerable people helping to grow it, knowing what science can do for agriculture and so on. It would seem to be folly not to introduce this at a fairly early stage, in a scientific way in a school curriculum.

I think there can only be gain; it brings the children near to what the life of their society is, there is an intellectual gain because they are learning some science, and there is the gain of ultimate use.

I would suggest that the kind of education which is too divorced both from science and from the use of science, is no longer applicable to the kind of revolution which we have got to bring about in a relatively short time.

At University level I would suggest something not dissimilar. Here again the English are very skilful and good at turning out extremely highly training professionals, and much of the scientific education is remarkably good. This is common ground. We don't do enough of it, though we are doing much more than we did, and we have in fact bestirred ourselves more recently than for many years.

The American college education is infinitely varied; they can do anything - it is very wasteful, but it is also very fine. They lose more people on the way than the poor countries could possibly afford!

The poor countries could not possibly afford to train people for half the college course and let them drop out in the casual way that the richest country in the world can.

There is far less of this wastage in the Soviet Union.

And again, I don't think the poor countries can possibly afford, and I am by no means sure the rich ones can, to allow the total number of students who want to do a subject, to do that subject if there is not going to be a useful social activity for them.

I don't think it makes any sense at all to spend money which no country, and certainly not a poor country, can afford, to train say ten lawyers to one doctor, to one agricultural engineer. This is sheer nonsense.

For two or three generations the world is going to want, above all, people who are going to make the wealth and do the social tasks.

If this doesn't happen we run into disaster.

For moral and intellectual and social reasons it seems to me obligatory for a sensible government at least to have rough ideas of what kinds of numbers of graduates its universities ought to produce.

This is no contradiction of the freedom of the university; the freedom of the university; the freedom of the university doesn't depend on producing say ten thousand graduates in Coptic and nothing else, and leaving everything to the operation of the free market - which curiously enough doesn't work.

The laws of supply and demand work chaotically in what students elect to do.

It is a very curious thing, but in England and America for 20 years we haven't been able to get enough mechanical engineers. This is the greatest single need in these highly developed economies. These are the persons in the shortest supply.

This fact is well known. But do you think anyone does mechanical engineering?

We faced exactly the same problem in harder circumstances in the war, when we tried to remove from students' minds the idea that they ought to do, say civil engineering, and turn to something which we badly wanted them to do. We had to take powers to direct them because then we were up against it.

But without taking such powers, I am sure that sensible governments could in fact get a reasonable approximation to the number of trained persons it must have.

In doctors, scientists, in agricultural engineers, in anything that makes the wealth, there will be nothing like enough qualified people in the poor world anywhere until all of our children are dead.

This is important, and I believe here we must stop some of our nonsense, the idea that all universities ought to produce innumerable graduates of a non-disposable kind - this is too silly, we can't afford this waste of the human spirit and this ultimate lack of responsibility.

Having said that, which is reasonably clear, I would like to make one qualification.

Talent is a fairly delicate thing, high talent is very precious. It is extremely important to have formal provision made, both with us and with the poorer countries, for students who have high talent of a kind which so far as one can perceive won't be practically useful.

It is important not to force an absolutely first-class pure mathematician to do something else.

You never know, ultimately pure mathematics may work in splendidly - but even if not, I believe, that it is vital that we should keep our respect for high talent.

This I believe is where real free choice out to operate. You will find that you will benefit by invisible ways and possibly in visible ones.

And again, if you have this kind of educational system I am sketching out, it is inevitable that some of the highest talents of the poorer countries should want to spend much of their time in countries where they can meet persons who are at present better trained.

This price has to be paid.

Both England and Russia gained a good deal through Kapitza spending fifteen years in the Cavendish Laboratory. At that time Russia might have badly needed him, did in fact badly need him, but the fact that he was with us for fifteen years, living in at that time the best organized physical laboratory in the world, has proved to be of great value, both to his own country and to all of us.

I believe it would be of much benefit to the poorer countries if their supremely gifted people spend some of their creative lives in other societies. The only thing is, keep their affections, keep them going back and forth, keep them aware of what they must do in their own societies also.

This is a problem of action.

We shall feel better if, in however small a way, we are contributing to that action.

This is real, this is life.

We are talking about the lives of many people.

May I finish with a statement of our obligation, if a Gentile may quote from Jewish wisdom. It seems to me to sum up one's feelings to the major problem confronting this world. If I am not for myself, who am I? If I am for myself alone, what am I? If not now, when?

Education Commission
Government of India

Subject: Education, Manpower and Economic Growth

Messrs. Frederick Harbison and Charles A. Myers have recently published a book on Education, Manpower and Economic Growth. The book deals with strategies of human resource development and makes good reading. The object of this paper is to bring to the notice of the members of the Commission some important findings of this study which have a bearing on the situation in India.

2. Indicators of human resource and development: The authors find that the problem of human resource development is essentially a problem of expanding and improving secondary and higher education. For convenience of discussion, they have defined a composite index of human resource development as consisting of the arithmetic total of (i) enrolment at second level of education as a percentage of the age group 15-19 adjusted for length of schooling and (ii) enrolment at the third-level of education as a percentage of the age group, multiplied by a weight of 5 (a weight of 10 and a weight of 3 give somewhat different results but not significantly different). On this basis, they have divided the 75 different countries of the world for which data were available into four categories: Underdeveloped (17 countries); partially developed (21 countries); semi-advanced (21 countries); and advanced (16 countries).

3. A strategy of human resource development for the semi-advanced countries: The authors make the following important recommendations for evolving a strategy of human resource development in the semi-advanced countries (in which India is included).

If the semiadvanced country is to move ahead toward the level of the advanced countries, it will have to build a strategy of human resource development for a ten-to-twenty-year period in response to the following imperatives and pressures;

1. There will be a major effort in rapid industrialization, as these countries seek to enter the company of advanced industrial nations. During this period, they will still be dependent on scientific discoveries and technological advances borrowed from other countries. But they will have to develop their own research and technical capacity to a higher point in order to utilize these discoveries and advances in their own industrialization. The application of modern research methods to the improvement of agriculture is also vital in most Level III countries, since an average of half of their active population is still engaged in agriculture. Consequently, many types of high-level manpower will be required to staff research institutes, industrial establishments, and experiment stations, as well as other institutions of an advancing society.

2. Population pressure in the average semiadvanced country continues to present policy dilemmas, no less than in the Level II country. The basic question is whether development policy should be geared to increasing economic efficiency, reducing dependence on foreign exchange, maximizing employment, or reducing the birth rate, or some combination of these objectives. Unemployment constitutes an explosive political force which compels

Level III countries to accelerate their rates of economic growth.

3. Political and social pressures will demand consolidation of universal primary education and provision of secondary education as a matter of right for all who can qualify. The legal requirement for universal primary education may be increased from six to around eight years, in response to these pressures. Expansion of primary education will increase the pressure on secondary schools, and unless there is some control, these will become funnels through which pour too many misdirected and poorly trained students. Thus, the nature and quality of secondary education will be critically important.

4. The pressure for more places in higher education will increase. Policy makers will face a dilemma: Should enrollments be expanded in faculties where the cost per student is low, or should selective expansion take place in the science and technical faculties which are more costly and which produce the high-talent manpower required for research, development, and industrialization? A favourable pressure for the latter may be the increased prestige of science and engineering in the industrial world.

These imperatives or pressures suggest the following principal elements in a strategy of human resource development in the semiadvanced group of countries:

1. Reorientation of higher education should have top priority, with more emphasis on scientific and technical faculties (including agriculture) and relatively less on humanities, fine arts, and law. Some Level III countries are already turning out too many ill-prepared graduates in the nontechnical fields, thus adding to the number of educated unemployed. There is danger in overexpanding mass higher education at this level of development. Instead,

the emphasis should be on quality, since well-trained lawyers, economists, public administrators, industrial managers, social workers, etc., are needed, as are qualified engineers, scientists, and agricultural specialists.

More postgraduate training will be necessary in some of these fields, especially to staff research institutes.

Educational reform of this sort will be more effective than mere quantitative expansion of higher education. Political pressures for more places in higher education may force unwise expansion, and it will take political courage to resist them. The worst mistake is to take the easiest path: to expand all fields, faculties, and universities in equal proportions. This may be politically attractive, but it is disastrous for strategic human resource development.

2. Research institutes in science and technical fields (natural and biological sciences, engineering, and agriculture) need to be established and expanded in order to increase the country's capability of adapting modern science and technology to its own needs. Substantial financial resources will have to be allocated to building these institutions with competent staffs. This in turn will call for more graduate-level training. Some research facilities may be established within existing universities, some may be quasi-governmental with support from industry, and some will be established by government alone for specific purposes. A positive factor working for the expansion of research is the growing recognition of science and technology in the modern world, and the element of national prestige involved in having research institutes of recognized international standing within the country.

3. The policy dilemmas resulting from population pressure and mass unemployment will not easily be

resolved. Rapid economic growth may help to alleviate unemployment through expansion of tertiary industries as the manufacturing sector expands.* But it will be necessary to raise productivity in manufacturing industries, and this may limit employment expansion in manufacturing as such. Possibly labor-intensive methods of production should be confined to cottage and handicraft industries, and to construction of schools, roads, dams, irrigation projects, etc. Employment pressures to use antiquated technology with higher labor-capital ratios than would be needed for modern techniques in such industries as steel, chemicals, petroleum refining, etc., would handicap economic growth and the employment-creating expansion of the tertiary industries. Some central economic planning is necessary to cope with these pressures.

It is probable that in the initial years of the ten-to twenty-year planning period, an investment in spreading methods of birth control would be the most important step that could be taken by a semiadvanced country facing population pressures. This would not only reduce the eventual number of unemployed people, but relieve the pressure for continued unwise quantitative expansion of the educational system.

The immediate problem of unemployed secondary school and college or university graduates, poorly trained and in the wrong fields, might be alleviated by special adult education or vocational school programs to retrain these people as teachers, extension workers, minor administrators,

*"Other things being equal, the more rapid the rise of manufacturing output, the more employment can be absorbed in the tertiary sectors ... for every additional worker employed in manufacturing, there are likely to be four to six additional employees in commerce, construction, transportation and services." Walter Galenson, "Economic Development and the Sectoral Expansion and Development," paper at Regional Seminar on Problems of Planning the Labor Force and Its Employment, Cairo, Mar. 11-22, 1963, Institute for International Labour Studies, Geneva, 1963.

and senior clerks. Some direction of the labor force may be necessary as the alternative to having unemployed people who will not find jobs otherwise.

4. A good strategy for secondary education concentrates on improvements in quality and orientation, rather than simply expansion to provide more places for primary school leavers. The reforms in higher education suggested earlier will require the inclusion of more science and mathematics in the secondary school curriculum. Shortages of competent secondary school teachers in these fields and others might be met by a program of retraining unemployed college and university graduates to teach these courses. Traditional teaching methods can be supplemented with the newer teaching technology now available, such as educational television for laboratory demonstrations in science. The new methods of teaching secondary school physics, developed by the Physical Science Study Committee attached to the Massachusetts Institute of Technology, are another example of innovations in teaching methodology in a critical subject. The secondary school bottleneck for further education in scientific and technical subjects may thus be broken at the same time that the problem of the educated unemployed is somewhat alleviated.

A related problem is whether separate secondary schools are to be established for those students who have neither the capacity nor the desire to go on to higher education, or whether separate ladders of secondary education may be established in the same schools, only one of which leads directly to higher education. The latter appears to be the better choice, and avoids the problem of vocational or technical schools completely separate from the main stream of secondary education.

5. More responsibility for training those who do not go on to higher education should be placed on employing INSTITUTIONS through apprenticeship, vestibule, and on-the-job training programs. These efforts may be expanded even further than in the earlier levels of development, since an advancing industrial society requires a variety of skills which can only be developed adequately on the job. This training will be more productive if the trainees have had an adequate secondary education which includes some science and mathematics as well as technically oriented subjects and shop work. Closer gearing between these types of secondary schools and the employing organizations is necessary.

6. Primary education will have to be expanded in a few of the Level III countries to achieve the legal requirement of universal education for at least six years, and it will be extended to eight years in others. But qualitative improvements are necessary to reduce the number who fail to complete primary schools. With more college and university graduates available, it may be possible to induce some to become primary school teachers, as in the advanced countries. They will be attracted by the prospect of better salaries, which need to be raised relative to other occupations. Salary scales related to teacher qualifications would also encourage present primary teachers to take additional work at teachers colleges or universities. If the choice is between more poorly qualified teachers and fewer teachers who are well-qualified, the former course can only be regarded as a temporary one. Better teaching, better location of primary schools in rural districts, and other means of assuring that more students who start primary schools will finish them are needed. But on the whole, the primary school situation is not the critical problem in Level III countries, as compared to secondary and

higher education.

7. Changes will be necessary in the structure of incentives for seedcorn positions such as teachers, agricultural extension workers, and community development officers, as well as of other high-talent manpower. The labor market does not operate well enough to raise salaries in these occupations sufficiently to attract enough competent people. Possibly existing demands are not sufficient, especially where land reform and community development programs or industrial development have lagged in some Level III countries. But more often, the prestige and salary schedules attached to these occupations have not kept pace with requirements relative to the traditional professions of law, medicine, and especially government administrative positions.

The decision here is often a difficult one, for some of the underpaid or lower-prestige jobs are also government civil service jobs, as in the case of teachers and university professors in many countries. The salary of a professor of mechanical engineering in a government-supported higher technical institute will inevitably be compared with the salary of a mechanical engineer in a government-owned public enterprise. Similarly, salaries of junior administrative personnel may be established by the same government ministry which sets the salaries of village workers and agricultural extension specialists. Therefore, the initiative for breaking the logjam rests with government itself, as in Level II. If there is a shortage of trained agricultural extension personnel, their salaries ought to be raised relative to those who crowd and overman the administrative cadres in the capital city. If there is a shortage of technicians in public enterprises relative to the number of

engineers, salaries can be raised and ladders of promotion to professional jobs with increased off-the-job training provided.

Skillful management of technical and professional personnel in work teams will also be required. A strategy of human resource development is incomplete without attention to the quality and competence of managerial manpower in employing organizations. This, too, may be up-graded through supervisory and executive development programs, both in the enterprise and in outside institutions, such as management associations.

A strategy of human resource development built around these elements would help the average Level III country move toward the advanced group. As Table 2 in Chapter 3 showed, the average GNP per capita rises about three times between Level III and Level IV, while the primary enrollment ratio increases only one-fifth, the secondary ratio twice, and the higher education enrollment ratio about one and one-third times. Thus, it is clear that the proportionately greater effort will have to be put on secondary and higher education, as compared to primary education.

Specific budgetary priorities and amounts are difficult to estimate for any group of countries, as we have noted in the earlier chapters dealing with Levels I and II. They are probably subject to a wide margin of judgment. But, as compared with the partially developed countries, the average semiadvanced country may find it desirable to reduce the percentage of its total educational expenditures for primary education and to raise them proportionately for higher education, which is always more expensive. Thus, an appropriate distribution of the total educational budget might be the following: 35 per cent for primary education, 40 per cent for secondary schools, and 25 per cent for higher education of all types. These

figures do not include expenses for adult education, on-the-job training, and supervisory and management development programs in employing institutions.

While the suggested percentages may not be defensible in any particular case, there is a general trend toward relatively greater expenditures on secondary and higher education as Level III countries move toward the advanced group.

J.P. Naik
Member - Secretary

EDUCATION COMMISSION
(GOVERNMENT OF INDIA)

Subject:- Memorandum submitted to the Education Commission.

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The following memorandum has been submitted to the Education Commission by Shri Prashakar Padhye, Secretary of the Asian Congress for Cultural Freedom, New Delhi:

"It has been the experience of the past several years that most of our intelligent students are forsaking Humanities and going over to Science. This is good from several points of view, but it would create problems. It is never good for the culture of a society that the Humanities be starved. The solution would appear to be what was proposed by C.P. Snow in his lecture on "Two Cultures".

I believe we can solve this problems to a certain extent by making the necessary changes in our curriculum. I suggest that our Science and Technology Students should be made to study, as a compulsory subject, the history of Science and Technology and also the Philosophy of Science. Likewise, our Arts students should be compelled to take an elementary course in Science and also to be compelled to study Philosophy of Science. This would, I believe, correct the imbalance created by the present gulf between Science and Humanities.

I might mention that the students of the Indian Institute of Technology at Pawai (Bombay) are required to study the history of Science and Technology."

Circulated to the Members of the Commission for information.

J. P. Naik
Member-Secretary

EDUCATIONAL STANDARDS AND POSSIBILITIES

(A Trip to Russia)

by Lord Bowden

Only five out of every hundred of our young people go to universities. In Russia they send about thirty out of every hundred to university, and in America perhaps thirty-five or forty out of a hundred. Of course American education and American industry have been well organized for a hundred years or more, but in 1918 millions of Russians were illiterate and Russian industry was in ruins. Today Russia produces nearly twenty times as many engineers as we do and Russian industry is second only to that of the United States. In the last few years the Russians have had to tackle many of the problems which confront us in England today. They have done so with great success, and furthermore they have done so on the basis of ideas which are strange to the Western world. I was very glad to go to Russia recently. I had a look at their universities and their research institutes. Our time there was short but our hosts were kind and we were able to meet many of the politicians and officials who are responsible for the economic, scientific, and educational policy of the Soviet Union.

All the universities in the world are much alike in many ways. University students in Russia are very like our own, although there are many more of them. For all that, some of the differences between the Russians' educational system and ours are striking. The Russians regard university education as a means to an end. To them the universities are an important component of society and exist to serve it. In this country we are apt to assume that education and culture are ends in themselves and that pure scholarship needs no further justification than its own existence. The American universities rose to greatness by emphasizing both pure scholarship and service to society.

When Lord Robbins and his committee were considering how to expand our universities, they concluded, I think rather reluctantly, that the demand for different types of scholar could not be predicted from any information which the government had at its disposal. They decided, therefore, that our universities must develop so that they could accommodate all suitably qualified students who wanted to go to them and that the universities must provide facilities for students to study subjects in which they were primarily interested. This idea seems at first sight to have great merit, but if you consider it, it becomes obvious that the future of the universities will be in the hands of children of fourteen or fifteen who have just taken their 'O' level and are making up their minds how they are going to spend the next two or three years in the sixth form. When they make this all-important decision they know nothing at all about the world as a whole, nor do they know anything about the careers which are going to be open to them. They usually make this all-important choice because they happen to have come under the influence of some particular schoolmaster whom they like. Our schools are so ridiculously specialized that it is almost true to say that from the moment they make this decision their careers are predetermined.

I wonder if the graduates who are going to emerge from our universities will be able to fit themselves into society and make use of all the material they have learned. They may be well educated; we think they will be. But will they have any proper sense of vocation? Will they be able to repay society for the investment which society has made in them and in their education?

I sometimes think that we have gone a long way towards making the very negation of planning into a system of government. This kind of policy is incomprehensible to the

Russians. It seems to be inconceivable to them that any successful expansion programme could be determined in this way. They begin by making the fundamental assumption that graduates who come from universities have an obligation to society and that the purpose of their university education is to enable them to contribute to society by exploiting their native intelligence to the best possible advantage. The Russians are all convinced that the universities must teach useful skills as well as intellectually valuable disciplines. The central Gosplan authorities do their best to produce a running forecast of the probable demand for different types of skilled men and different types of scholar for five years ahead and they determine the expansion programme for the universities on the basis of these figures. They know of course that these plans are bound to be incorrectly detailed and they take all possible steps to correct them as they go on; but the fact remains that the number of places in different departments in Russian universities is determined as far as possible by decisions which are based on the probable expansion and economic growth of the Russian economy.

The government allocates funds to universities, and the students have to compete for places, so they tend to study those subjects and enter those professions for which the government has decided there is going to be a demand when they have graduated. I had a long talk with Mr. Rudnev, who as Deputy Prime Minister was responsible for making these forecasts. He explained to me that their estimates are bound to be unreliable, but none the less they are good enough to be going on with in practice, and their planning is so flexible that they can change the pattern of university growth as and when they want to. They have no doubt that their graduates will be able to fit easily and usefully into society after they have left the university; that they will all of them find

a useful job to do; and he found it impossible to believe that any country should knowingly plan its university expansion on any other basis than his own.

The difference between our view that the universities should be autonomous and that they should be almost immune to advice and criticism, and the Russians' view that all universities, like all other parts of the state, have a duty which transcends even the duties to pure scholarship, is all-important, and in the end is responsible for the fundamental differences between their system and our own.

Forty years ago the Russians decided that an industrial society could prosper only if it had enough engineers. They built a series of special institutes to educate engineers - there are half-a-dozen of them, for example, in Moscow alone - but they have their universities too. The university of Moscow has 30,000 students and 3,500 staff. This is about the same ratio of staff to students as we have in England. The new extensions to this university were built in the four years between 1948 and 1952 to house 16,000 students, all of whom are studying branches of science and mathematics.

These new buildings are magnificent and tremendously impressive. I could not help remembering that 20,000,000 Russians had died in the war and I was amazed by the courage of a country which could devote its resources to building a university so soon after the end of such a disastrous war. They told me that thousands of students went along to help the craftsmen and builders in their tasks; at the same time we were building the new university of Keele in Staffordshire which then housed about 400 students.

The great turbine factory in Leningrad is making some of the largest turbines in the world and it is supplying most of the prime movers for the electrification of Russia.

It was Mr. A.C. Annis, a Manchester engineer, who looked after

the production of the first Russian-built turbines in 1922. The Russians knew that they were going to need a lot more turbines and a lot more turbine engineers; their electrification programme is even bigger than ours, and they decided that since this factory was so well equipped, they would put a university inside it. They had to submit to an inquisition from the authorities in Moscow which seems to be much like the kind of inspection which our English universities have to go through every five years when they are visited by the University Grants committee, or the kind of inquisition which the colleges of advanced technology expect from the Hives committee. The management of the factory were tremendously proud of the fact that they had been able to satisfy the authorities that their staff and their equipment were up to the required standard, and that the title of a university could be conferred upon their institute, so that the senior designers, the chief metallurgists and the chief engineers of the factory could be appointed to be professors.

Of the 15,000 employees in the factory, about 1,000 are taking what I can best describe as a long and gruelling seven-year sandwich course in the factory. They work part-time on the shop floor and part-time in the classroom. During their last year they write a thesis on the work they have done in the factory and they present it for what seems to be at least the equivalent of an English M.Sc. They have had a good general education superimposed on a specialized course in the design and manufacture of enormous rotating machinery, and they graduate, of course, as mechanical engineers.

We met some of the students and some of the staff. The staff were all professional engineers and they seemed to enjoy the fact that they could combine teaching with practice. They liked the opportunity to educate their own successors. They liked the opportunity to educate their own successors. They liked the opportunity to educate their own successors.

They were particularly proud of the fact that half-a-dozen of the chief engineers in other turbine factories had all graduated in Leningrad. I talked to a twenty-four-year-old girl who was in charge of a small gang of men on the factory floor. She was fascinated by her practical work and by her studies. She seemed to be confident that she could combine her career with marriage if she wanted to, and she was pleased that the turbine she was helping to build would help to make the wilderness of Siberia blossom as a rose.

There is enormous potential for hydro-electric power and there are huge open-cast coal workings, in the basin of the Yenisei river in the heart of Siberia. The Russians are proposing to exploit perhaps fifty per cent. more than the total output of our own English grid system and they want to transmit the whole of this power to their industrial complex in the Ural mountains. This is comparable to shipping the whole of the electricity that we generate in England to Constantinople for use. The Russians were doing a design study in collaboration with the universities of Moscow and Leningrad, and I was delighted to discover that one of the books they were using to help them had been written in my own college in Manchester by Professor Adamson last year. He was in Russia with me and the Russians gave him a very warm welcome indeed.

The Russians put a technological university into a factory for much the same reason that we put medical schools into hospitals. By this means they produce good engineers who clearly understand that their work is primarily vocational and it is intended to fit them to make the biggest turbines in the world; and incidentally, it qualifies them to tackle a variety of other tasks in the world of heavy engineering.

Wherever we went we found this same intimate association between theory and practice, between the world of industry and the world of learning. There are research

institutes all over the country which specialize in such subjects as production engineering or development of machine tools, or perhaps in subjects of only local interest such as the cultivation of tea and grapes and the making of wine. There are other institutions run by the Academy of Sciences studying such subjects as nuclear physics and the physics of the solid state. They work on problems which have been propounded to them by the central government or by industry, or problems which arise naturally in the course of their work. They are allowed to spend about thirty per cent. of their budget at their own discretion in any way that they like. They are all used as part of the educational machine; students go freely to and from the local university; they learn how new ideas develop and discovery by actually doing it what engineering is really about.

Sandwich Courses:

The problem of turning college graduates into engineers or scientists is little understood in this country. The Americans try to solve it in the enormous graduate schools of their universities which are lavishly supported by the Federal Government. We still seem to be coasting along on the impetus which was given to postgraduate apprenticeships by Sir Arthur Fleming forty or fifty years ago. The Russians use every research station in the country, whether it is doing pure research or development work, whether it is in a university or an industrial plant or wherever it may be, and students go to all of them to learn to use the theory they have studied. If they do well they can prepare themselves for postgraduate degrees wherever they are, in whatever they study. The standard of their degrees and the quality of their supervision is assessed and guaranteed by a committee responsible to Moscow. Some of the ablest young physicists in Moscow follow sandwich courses in the central research

institutes. In a real sense they serve an apprenticeship to research: they begin by helping an older man, they study their theory part-time, they start to work on their own as soon as they can. This particular course is unlike anything I have ever seen, but it seemed very good and the students were enjoying it.

The director of a large steel works was taking his doctorate in the local university. We met a metallurgist in the Donbas basin who was president of the local committee which is responsible for assuring the standards of all the degrees in the district. People have come from the middle of Siberia to work under his supervision. We could never tell where industry ended, where research began, and when the universities took over.

This intimate association between the world of industry and the world of education has always been traditional in Russia. Professor Timoshenko was educated in Russia. He went to America as a very young man and ultimately became the doyen of American structural engineers. He has recently revisited his native country and written a little book in which he tells how well the Russians understood structural engineering sixty years ago: better, he says, than anyone else in the world at the time. He attributes their success to the fact that all the bridges on the Trans-Siberian railway had been designed by Russian academicians. In those days Russian professors of engineering had to keep their hand in as practising engineers. They still do.

Mixing Theory and Practice

The Russians seem to be obsessed by the importance of mixing theory and practice. About eight years ago they decided they would have to reform the whole university machine to make certain that their students would be aware of the implications of their work before they went to college.

Nowadays all Russian schoolboys are expected to leave school at eighteen and work for a couple of years in a factory or on the land, before they go to the university. A few, perhaps, 20 per cent, of the very ablest students, most of whom are mathematicians or musicians or physicists, are allowed to go directly from school to college, but 80 per cent. of all the undergraduates in universities have had two years in the outside world. The university dons I met told me that this practical experience produces maturity and stability in the student body. They are convinced that two years of practical life prevent students from believing themselves to be members of a privileged class.

The Russians try to make it easy for people of all ages to qualify for any profession in which they are interested and to re-train themselves for new professions late in life. Nowadays, most scientists and engineers must be brought up to date several times in the course of their working lives. The Swedes, the Americans, and the Russians have all organised suitable programmes much better than we have in this country. Any Russian who wants to take a degree or to learn about some new subject which interests him can apply for admission to a correspondence course. These courses are organized by the universities and they are an essential part of the educational machine. Russian schoolboys, like schoolboys all over the world except in this country, take a fairly general course which qualifies them to enter any university faculty. They begin to specialize only after they have left school: they are never committed for life, as our children are, at the ages of fourteen or fifteen. If a correspondence course student does reasonably well, he is entitled to forty working days leave every year on full pay so that he can visit the university, meet his professors, do his

practical work, use the library and so on. Forty days may not seem long, but it is in fact almost a full English university term. After he has done his university work the student goes back to do more correspondence courses at home. The authorities may help him to find a job near to a factory or to some small university so that he can study more easily. or perhaps he may be transferred to a full-time university course in Moscow or elsewhere.

The remarkable thing is that although some students fail their examinations every year and have to leave the university of Moscow, more students graduate there than are ever admitted as freshmen because so many join the university after they have taken correspondence courses for a few years.

Educating working People

I began by saying that the Russian government believes that education is all-important for the welfare of society. This view is shared by ordinary working people. One sees them reading textbooks in trains and buses. I was told that nearly half the working population of Moscow were taking courses of one sort or another last year. Russians believe that an educated man can serve his country to better purpose than an untrained illiterate man could do. They are prepared to make it possible for any man at any stage of his life to exploit his talents to the best of his ability. They are prepared to make use of any part of the industrial machine of Russia to educate people so that they can do their best. I think we have a great deal to learn from the Russians.

Need for Extra-mural Department in a University
(Professor R.B.Seth)

The need for an Extra-mural Department in any University is keenly felt by those young men and women who wish to attend a special course of lectures in order to prepare for a specific examination or to satisfy their special needs, tastes and aptitudes. At present some private institutions are carrying on this work in our country. However, most of the students join those so-called Colleges because our Universities do not at present afford necessary facilities to meet their requirements or satisfy their tastes in this direction.

During my recent visit to Hong Kong I had the pleasure of meeting Mr. Ieuan Hughes, Director of the Extra-mural Department in that University. He was good enough not only to supply the necessary information regarding the work-ing and usefulness of the Department but also to permit me to attend a few of his lectures. I was impressed with the regularity and efficiency with which the work is being carried on in that University by able and experienced men and women, each of whom possesses special qualifications and adequate experience in his or her subject.

Extra-mural Department in the University of Hong Kong was introduced in the year 1956. It is run by the Board of Extra-mural Studies with the Vice-Chancellor of the University as the Chairman.

Its aims and objects are:-

1. To provide a well-balanced programme of courses to persons who are interested in certain arts and sciences but are unable to attend regular lectures in the University.
2. To meet the requirements of persons preparing for

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admission, competitive or other public examinations.

3. To uphold University standards by a special course of lectures on different subjects.
4. To complement the work of Audit Education and Technical Institutions organised by the Department of Education.
5. To help every person to satisfy his or her intellectual needs, tastes and aptitudes and thus develop into the whole man.

The programme of the Department contains about 150 courses classified under the following main heads:-

- (i) Oriental Studies.
- (ii) Philosophy, Psychology and Education.
- (iii) Economics, Sociology and La-w.
- (iv) Geography, History and international Affairs.
- (v) Mathematics, Science and Medicine.
- (vi) Arts and Architecture.
- (vii) English Language and Literature.
- (viii) Other Languages and Literature.
- (ix) Vocational courses and Higher Commercial Studies.

In case 8-10 persons apply for a special course of lectures, the Director of the Department arranges for the same. Of course, the applicants have to pay the fee stipulated for each course of lectures.

The staff for carrying on the extra-mural work at present consists of a Director, Assistant to the Director, Staff Tutor, Secretary and the office establishment. It is responsible for overall planning and administration.

The work is organised through a large number of Tutors who form an essential link between the Department and the community they serve. There are two types of Tutors: (i) Resident Tutors, each of whom is responsible for a particular area, and (ii) Staff Tutors, each of

whom is responsible for a subject or a group of related subjects. Every Extra-mural section serves a region as a whole, and to do so effectively the region is sub-divided into suitable areas, in each of which resides a Resident Tutor responsible for that area.

A Resident Tutor is expected to know the people residing in his area, their needs and wants, and to keep a close contact with the educational, cultural and social institutions, and commercial and industrial undertakings in that area. He must be very social, enterprising, sympathetic and talented with a broad outlook on life and missionary spirit. Such tutors are recruited from persons of many parts and real merit.

A Staff Tutor is selected to organise and teach subjects in which he has got special qualifications and experiences and for which there is a particular and local need. He is expected to maintain close contact with the persons interested in his field of work, and to develop extra-mural teaching in his subject. He should also be able to organise research and publish papers, pamphlets and books that would help the study and teaching of the subject.

Of course, it is neither possible nor necessary to organise the extra-mural teaching on the lines exactly similar to those of the University of Hong Kong. The work will vary with the local conditions and requirements of the students in each University. However, it is advisable to make a beginning with one or two of our Universities, say in Delhi and Lucknow, and to modify it in the light of experience gained by the working of Extra-mural Departments in these Universities.

Education Commission
Government of India

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EC/PINF/7
Vth Meeting EC

Subject:- List of Memoranda received till the 21st
December, 1964.

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Number of Memoranda received as on 21.11.1964-18

The following memoranda have been received in the
office of the Commission till 21.12.1964.

Sl. No.	Name and address of the person submitting the memorandum.	Subject of the memorandum
19	Shri C.C. Shah, Surat.	Evolving a common National Pattern of Education.
20.(a)	Shri I.U. Vsavada, Gujarat	Higher Education
20(b)	- do -	Primary & Elementary & Secondary Education
21.	Shri Chandulal Nenavati, Bombay.	Medium of Instruction
22.(a)	Dr. Chidambaranatha Chettiar Madras.	University Education
22(b)	- do -	School Education.
22(c)	- do -	Adult Education.
23.	Verghere, Paul. T. Principal Govt. Training College, Trivandrum.	Secondary Education
24.	Verma, K.K., Sr. Lecturer, Govt. Training College, Jullundur.	Teacher Education.
25.	Srirangaraju, Dy. Director of Public Instruction, Dharwar.	Recruitment, pay scales & Service conditions of teachers.
26.	Shri B. Subbarajan, Joint Compiler, Telugu Basha Samiti, Madras.	Agricultural Schools.
27.(a)	Shri H.N. Shah, Dy. Director of Education, Gujarat State, Ahmedabad.	Education Administration.
27.(b)	- do -	Educational Development and Manpower requirement.
28.	Prof. N.R. Dhar, University of Allahabad, 2 D. Beli Road, Allahabad.	University Education (Science)
29.	Unia, S.E., M.L.A. Gujarat State Assembly.	Secondary Education.
30.	Shri S.N. Dutt Choudhury, Retd. Dt. Inspector of Schools, Calcutta.	Education.

31. Mr. (Mrs) Sharayu, G.Bal,
Principal, S.N.D.T. College
for Women, Poona. Women's Education
32. Dr. Robert Heiligs Early start of Rational
Education.
33. Marilyn J. Larson,
Institute of Govt. & Public
Affairs, 1201 West Nevada St.
Urbana, Illinois. Financing of Education.
34. Dr. A. David,
Dy. Director of Public
Instruction, Pondicherry. Training of Primary School
Teachers.
35. Shri P.B. Katakhar
423/B Shaniwar Peth
Poona-2. Technical and Vocational
Education.
36. Prof. S.B. Kakkar,
Head of the Department of
Psychology Govt. Training College
for Teachers, Jullundur. Teacher Training.
37. Dr. B.Lal, Professor & Head of the
Dept. of Zoology, University of
Lucknow. Graduate Universities
38. Dr. N. Dosajh National Pattern of
Education.
- 39.(a) Rev. Fr. A. Solagran, S.J. &
Prof. C.N. Patwardhan, St.
Xavier's Institute of Education
15 New Marine Line, Bombay.1 Joint Memoranda
Teacher Education
- 39(b) do - University Education
- 39(c) do - Primary & Secondary
Education.
40. J.N.Kapur
I.I. T. Kanpur Secondary Education
41. Dr. N. Ram Lal
Director Science Education Unit.
A.P. Hyderabad Secondary Education
42. Prof. B.R. Seth
Retired Principal
1 E/4 Patel Nagar, New Delhi-12. Secondary Museum
- 42(a) do - Extra Moral Dept. in
Universities
- 42(b) do - Adult Education
- 42(c) do - 1) Vocational Guidance
2) Need for Vocational
Hobbies.
43. Shri R.L. Rout,
Burnpur, Burdwan. Primary Education.

44. Shri A.M. Sahay,
'Lalgulab'
Nath Nagar,
Bhagalpur. National Integration
45. Shri S.P. Singh,
Police Lines,
Mirzapur (U.P) General suggestions for
moral preparation
46. Principal Nirejan Singh,
5/1 2 East Patel Nagar,
New Delhi-12 Role of Education in
national building.
47. P. Kodanda Rao,
Aloha
26, Sirkrishna Rao Road,
Basarangudi, Bangalore. Language policy for
India.
48. Dr. Bshambar Sharan,
Secretary,
Bhinga Raj Anathalaya,
Kamachha, Varanasi. Education of the opphans
in Uttar Pradesh.
49. Shri Siddheswar Prasad
M.P.
51, South Avenue, New Delhi. Medium of Instruction
50. Shri K.K. Chakravarti,
39, Babu Bagan Lane, Dhakuria,
Calcutta-31. Language problem
51. Shri N. Banerjee,
D-irector, Indian National
Academy, 31 Mahajatinagar, Block.II
Calcutta.51. Sanskrit as Indian's
Official language.
52. Shri N. Miyogi,
259, Darga Road, Calcutta-17. Language problem
53. A.R. Desai,
98, Main Road,
4 Malleswarann, Bangalore-3. Education policy
54. Shri L.C. Tandan,
Retired Principal,
V.S.S.D. College, Kanpur. Higher Education.
55. Prof. Uday Shanker,
Principal,
Govt. Training College,
Faridkot. Teacher Education for
Secondary Schools.
56. Prof. G.N. Chakavarty,
1160, Bojanna Lane,
Chamarajapuram,
Mysore-4 Language problems.

J.P. Naik
Member- Secretary

To

P.S. to Chairman, Education Commission
All members of the Education Commission
Associate Secretary.
Shri K.L. Joshi, Secretary, U.G.C.
All Officers of the Education Commission.

Education Commission
Government of India

EC/PINF/8
Fifth Meeting-EC

Subject:- List of documents/books etc. circulated to the members till 21-12-1964.

The following documents/books etc. have been circulated for the use of the members of the Education Commission:-

<u>Sl.No.</u>	<u>Name of documents/books etc.</u>
1.	Analysis of Press reactions to the Appointment of Education Commission.
2.	Centres of Advanced Study in Indian Universities.
3.	U.G.C. Information Paper VI/64. 1) Summary of Robbins Report. 2) Civil Science Replanned. 3) Problems of U.G.C. 4) Agricultural Education. 5) Education & World Affairs. 6) Where the education money goes. 7) P.U. Course- A preparatory to General Examination. 8) Catching the young for Industry. 9) Intensive agricultural programmes and community development. 10) Air force flying college examination April, 1962- Review.
4.	Recommendations of the committee appointed by the Planning Committee on plan projects regarding construction of Medical Colleges & Teaching Hospitals.
5.	A note on the comparative study made of the University Examination results and I.A.S(written part) for 1957-32.
6.	Madhankrishnan Report on Commission.
7.	Mudliar Report on Commission.
8.	Science & Maths- Education in Schools in India- Report on UNESCO.
9.	Educational structure in the States.
10.	A comparative study of State-wise variations in rates of fee levied annually in Govt. Secondary Schools.
11.	Projections of population upto 1980.
12.	Education in 1984. (from New Scientist of 21.5.64)
13.	India - Higher Education.
14.	Recommendations of State Education Minister's Conference on Higher Education(held on 25th & 23th April, 1964.

15. Some problems in Planning of University Education by Shri K.L. Joshi.
16. Planned Development & population growth IA MR Nov.1963.
17. Frame for the Development of Education in India IAMR June 1964.
18. A Harvest of plenty by Frank H. Shuman.
19. Education & Social purposes by Shri K.J. Joshi.
20. Libraries in Fourth Five Year Plan by D.R. Kalia
21. Educational Planning A short Bibliography by Central Sectt. Library.
22. A National system of Education II
23. Reorganisation of Secondary Education 12 year (10+2) system. By Shri K.L.Joshi.
24. Post War Educational Development in India Report by the Central Advisory Board of Education.
25. The Study of English in India by Central Planning Group Ministry of Education 1964.
26. Investment in Scientific & Technological Research during the fourth five year plan by Dr. S. Husain Zaheer, A. Rehman & N. Sen.
27. Education in Democratic Nation by James B. Contact
28. The National Institute of Sports-Patiala. Report
29. Indian Universities(Arranged Chronologically)
30. Copy of letter dt.15.10.64 for J.Parl Leonard giving particulars of Columbia University Team in India
31. Evaluation in Higher Education U.G.C.
32. Report on Examination Reform U.G.C.
33. Report on medium of Instruction U.G.C.1961.
34. Conclusions of the conference of the Education Ministers held on 25th & 26th April, 1964.
35. Memorandum submitted by the Ahmedabad Schools Teachers Association to the Union Ministry of Education.
36. Hand book of Universities in India.
37. Report of the Seminar on problems of school Education- Bihar citizens committee, Patna-4.
38. Draft Memorandum ^{on} Education- Bihar Citizens Committee
39. Report of seminar on problems of University Education 1963 Bihar Citizens Committee on Education-Patna
40. Educational Planning in Developing Countries -Unesco Regional Centre-1963.

41. Convocation Address- University of Roorke
Nov, 1964 by Dr. D.S. Kothari .
42. Projecting Man power Demand A review of Methodology
R.K. Srivastava.
43. Man power Planning for Economic Development in India.
R.K.Srivastava.
44. Student Personnel Services Proceedings of Seminars
(1963-64 USEF)
45. Manavi - The common language of Humanity by Motilal
Gurtu.
46. Employment of Matriculates - A case study D.G.E.T.
47. Correspondance courses in Training Colleges
NCERT Study Group - Report.
48. Manpower Aspects of Educational Development
plan of studies IAMA with 3 Annexure
49. Bhaktavatsslam Committee Report on Public
Cooperation for Girl's Education.
50. Research in Modern Indian Languages by Prof.
R.K. Das Gupta.

Item No. 10

Vth Meeting/E.C.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

The State Government of Gujarat is seriously considering a proposal to re-organise the educational system in the State on the pattern 7 + 3+ 2+ 3. A special Committee was appointed to examine this problem and to make recommendations. A copy of the report submitted by the Committee to the State Government is enclosed.

The Education Commission may find this document of interest.

J.P.NAIK
MEMBER-SECRETARY

P.S. to Chairman.

All Members and Officers of the Commission.

REVISED EDUCATIONAL STRUCTURE OF SCHOOL EDUCATION
PROPOSED FOR THE GUJARAT STATE.

Some time back the Government of Gujarat appointed a Central Syllabus Revision Committee for suggesting a revised syllabi for different school subjects in the primary and secondary schools. At its first meeting this Committee thought that it would be desirable to study the objectives of Education at various stages and also reconsider the pattern of entire education, in light of these objectives and the requirements of the community. It therefore appointed a smaller Committee - Integration Committee for this purpose. This Committee laboured for nearly a year and has drawn up a schem of Educational Reconstruction for the entire period of school education which has now been approved by the Central Syllabus Revision Committee and forwarded to Government for adoption. I am giving below an outline of the said scheme.

2. THE PATTERN OF EDUCATION:

- (i) Primary stage - 7 years.
- (ii) Secondary stage - 3 years, followed by the first S.S.C. Examination.
- (iii) Higher Secondary Stage in - 2 years, followed by H.S.S.C. Examination.

This will be followed by a three-year Degree Course at the University.

I - PRIMARY EDUCATION

The main purpose of Education in this stage is to provide minimum universal and undifferentiated education to children in the age group of 6 + to 13+. There are two types of primary schools, viz. (i) Junior Primary schools with stds. I to IV and Senior Primary Schools with Stds. I to VII. Both these are organised and managed by the Municipalities and the District Panchayats. Some of the secondary schools in the State also have with them the upper classes of the primary school, viz. Stds. V, VI and VII.

Details of subjects proposed to be included in the Syllabus as well as the time allotted to them are given in Annexure I and II.

II - SECONDARY EDUCATION

This stage covers the age group of 13 + to 16 + and it caters to the needs of two types of students viz.

- 1) Those who want to pursue their studies in the higher stage and
- 2) Those who want to terminate their formal education and settle down to work.

The Committee has taken these two needs into consideration and provided a frame-work of subjects which will primarily give all the pupils a sound, general education which is essential both for higher studies as well as for life. Secondly, a provision has been made for the teaching of a productive craft and in the last year of the stage some courses have been provided for, which will enable the student to take up a suitable job. Thirdly, in the last year of the stage the Committee has provided certain groups of elective subjects which will give an opportunity to the students to make a beginning in diversified courses.

Details of the subjects selected for the stage along with the distribution of time are given in Annexure III & IV.

III - HIGHER SECONDARY EDUCATION

This stage is designed to meet the three-fold need of the student community. The three types of students with these needs are given below:-

- (1) Those who desire to have entrance to the University in the Faculty of Arts, Science or Commerce.
- (2) Those who desire to have diversified vocational training for securing admission to Institutions of Higher Vocational Education and
- (3) Those who desire to equip themselves for a specific job or gainful occupation after the H.S.S.C. Examination.

The compulsory or core subjects are limited in number at this stage and are as follows:-

1. Mother tongue or Regional Language (Higher Level)

- 2. Hindi (Lower Level) or English (Intermediate Level)
- 3. General Science or Social studies.

The second part of the syllabus consists of three or four elective subjects chosen from any one of the 9 groups as shown below:-

- | | | |
|-------------------------|---|--|
| 1. Humanities |) | For entrance to the University. |
| 2. Sciences |) | |
| 3. Commerce |) | |
| 4. Agriculture |) | For entrance to Institutions of advanced vocational education. |
| 5. Technology |) | |
| 6. Fine Arts |) | |
| 7. Home Science |) | |
| 8. Post Basic Education | | |
| 9. General (including - |) | For those who wish to terminate their studies. |
| occupational oriented |) | |
| courses. |) | |

Details of the compulsory and elective subjects and time allotted to the same are given in Annexure V & VI.

* * *

It will be observed that a beginning in vocationalising secondary education is made in the 10th year and the same process is extended to the Higher Secondary stage and it covers a much larger field. The thirtyfive elective subjects shown in group 9 are for specific jobs or types of gainful occupation. The duration of these courses along with general education will normally be of two years, though it may be extended, if necessary.

The Committee is also of the opinion that some of these courses could be easily attached to our secondary schools according to the local needs. Where this is not possible it will be necessary to set up a separate schools for the purpose.

The two public examinations which are designed to be held at the end of the 10th and 12th year will enable us to screen, weed out and select students for various courses. A certificate will be given to the successful candidates in the first examination which will enable

-4-

them to join any of the three sections of the higher secondary school and in the case of second examination the certificate will enable them either to join the University for a three - year degree course or to be admitted to a Polytechnic or any institution of Higher Vocational Training or it will help them in securing a job.

Dated 13.12.64-

C.C. Shah

ANNEXURE - I

Primary Education

SUBJECTS AND ACTIVITIES PRESCRIBED

COMPULSORY SUBJECTS:

- I. (1) Gujarati (Mother tongue)
(2) Hindi (Link Language) - from Std. V.
(3) Arithmetic
(4) General knowledge (Stds. I, II & III) or Social Studies & General Science (from Std. IV)
- II. Games & Physical Education.
- III. Basic Craft - Any one of the following:-
 - (1) Agriculture
 - (2) Spinning & Weaving
 - (3) Card Board Work.
 - (4) Building Construction
 - (5) Wood-work.

} From Std. III onwards
} From Std. V.
- IV. Creative Activities - in Stds. I, II & III.
(according to facilities available):
Gardening, Paper-cutting, Clay Modelling
Std. IV Onwards - 1. Drawing, 2. Music.
- V. Group Activities:
Assembly (Music, Dancing, Dance, Drama)
Celebration of Festivals;
Personal Cleanliness (Std. I & II)
Class Cleanliness (Safai) () From Std. III.
Activities organised by Shala Panchayat -(From Std. VI)

ANNEXURE - III

II. SECONDARY EDUCATION
COMPULSORY AND ELECTIVE SUBJECTS

Stds. VIII & IX.

Std. X.

(For the S.S.C. Examination)

1. Compulsory Subjects:

(a) Languages:

1. Gujarati
2. Hindi
3. English

(b) Core Subjects:

4. Mathematics
5. General Science
6. Social Studies

I- Compulsory Subjects.

(a) Languages:

1. Gujarati (Higher Level) or
A Modern Indian Language (Higher Level) or a Modern Foreign Language (Higher Level)
2. (i) Hindi (Lower Level) or
A Modern Indian Language (Lower Level) (if the student has offered Hindi under 1 above) and
(ii) English (Lower Level) or
(if the student has offered English under 1 above) Gujarati (Lower Level)

(b) Core Subjects:

- 3-4. Any two of the following:
1. Social studies;
 2. General Science;
 3. Elementary Mathematics

Note:- The candidate will be examined in the remaining third subject by the school and the remarks obtained therein will be shown in the result of the S.S.C. Examination.

II. Elective Subjects:

Group 1: CULTURAL:

7. Any one of the following:

II. Elective Subjects:

(Candidates for the S.S.C. Examination will choose two or three subjects from the following group or groups keeping

- (a) A Classical Language in view their future requirements)
- (b) (i) Music
- (ii) Dance, or
- (iii) Art & Painting

GROUP 2: CRAFTS

(A) For those who desire to enter the University:

8. (a) Any one of the following: GROUP-I HUMANITIES

- Hand-spinning & Weaving 1. English or Hindi (Intermediate level or Higher)
 - Agriculture
 - Building Construction 2. A Modern Indian Language (which is not selected under 1 above)
- Or

(b) Any two of the following: 3. A Modern Foreign Language (which is not selected under 1 above)

- (i) Cardboard Work
 - (ii) Carpentry
 - (iii) Printing
 - (iv) Handmade Paper
 - (v) Gane Work
 - (vi) Clay Modelling
 - (vii) Leather Work
 - (viii) Kitchen-gardening
 - x) Sewing
- 4. A Classical Language
 - 5. Cultural History of India and the Indian Constitution
 - 6. Geography of India
 - 7. Algebra, Geometry & Trigonometry

GROUP 2: SCIENCES:

- 1. English or Hindi (Intermediate or Higher Level)
- 2. Algebra, Geometry & Trigonometry
- 3. Physics & Chemistry
- 4. General Science (Physics, Chemistry & Biology)

GROUP 3: COMMERCE

- 1. English or Hindi (Intermediate or Higher Level)
- 2. Commercial Arithmetic
- 3. Book-keeping & Accounts
- 4. Commercial Geography

(b) For Students desiring to obtain advanced Vocational Training:

GROUP 4: TECHNOLOGY

- 1. English or Hindi (Intermediate or H.L.)

2. Algebra, Geometry, Trigonometry
3. Geometrical & Machine Drawing
4. Woodwork Technology.

GROUP 5: FINE ARTS

1. English or Hindi (Intermediate or Higher Level)
2. Indian or European Music (Vocal)
3. Indian or European Music (Instrumental)
4. Dance
5. Art & Painting
6. Sculpture

GROUP 6: HOME SCIENCE

1. English or Hindi (Intermediate or Higher Level)
2. Physiology & Hygiene
3. Elements of Dietetics (including Cooking)
4. Home Management & Child Care

(C) For students who wish to terminate their studies.

GROUP: 7: BASIC CRAFT (Two Papers)

1. Spinning & Weaving.
2. Agriculture & Dairying
3. Building Construction, including Carpentry

GROUP 8: VOCATIONAL SUBJECTS

1. Typewriting (Gujarati, Hindi & English - any two)
2. Shorthand (Gujarati or English)
3. Book-keeping & Accounts.
4. Carpentry
5. Printing
6. Handmade Paper

7. Surveying
8. Calico Printing
9. Tailoring & Cutting
10. Sewing, Embroidery & Fancy work

III. Handicrafts:

(For those only who choose their elective subjects from Group 1, 2 or 3)

Any one of the following:

1. Cardboard work
2. Carpentry
3. Handmade Paper
4. Canework
5. Clay Modelling
6. Leather Work
7. Interior Decoration

IV. Compulsory Activities:

(a) (i) Games & Physical Education

(ii) Cultural & Co-curricular

Activities.

(b) Group Activities.

ANNEXURE IV

II. Secondary Education

Total teaching Time and its Subject-wise Distribution.

	Std. VIII-IX	Std. X.
Total time available for Teaching work in an academic year.	210	170
Weeks	35	30
Total Periods (of 35 minutes)		
In a week.	50	50
In a year.	1750	1500

Subjects or Activities. (Periods in a week)

I. Compulsory Subjects

(a) Languages	20	15
(b) Core Subjects	15	15
II. Elective Subjects	10	12
		(2 or 3)
III. Handicrafts.	-	4
IV. Compulsory Activities.	5	4
	<u>50</u>	<u>50</u>

Group Activities. (90 minutes in a week)

ANNEXURE V.

III. Higher Secondary Education

Compulsory & Elective Subjects

for

Stds. XI-XII & the H.S.S.C. Examination

Group 1 - Humanities

I. Compulsory Subjects.

1. Mother Tongue or Regional Language (H.L.)

2. Hindi (L.L.) or A Modern Indian Language

(if Hindi is offered under I above)

Or

English (Intermediate Level) or Gujarati

(Regional Language - L.L.) (if English is offered under
1 above)

3. Science and its Impact on Life.

II. Elective Subjects

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

5. A Classical Language

6. Algebra - Geometry - Trigonometry

7. Outline of World History

Or

Cultural History of India

Or

Religions of the World

8. Human Geography

9. Elements of Economics

Or

Elements of Sociology

or

Elements of Psychology

Group 2 - Sciences

I. Compulsory Subjects

1. Mother Tongue or Regional Language (H.L.)

2. Hindi (L.L.) or A Modern Indian Language

(if Hindi is offered under 1 above)

English (Intermediate) or Gujarati

(Regional Language - L.L.) (if English is offered under 1 above)

3. Social Studies and their Impact on Life.

II. Elective Subjects

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (whichever is not offered under 1-2 above)

5. Algebra - Geometry - Trigonometry

6. Physics & Chemistry

7. Biology

8. World Geography

9. Elements of Home Science

Group 3 - Commerce

I. Compulsory Subjects:

1. Mother Tongue or Regional Language (H.L.)

2. Hindi (L.L.) or A Modern Indian Language (if Hindi is offered under 1 above)

or

English (Intermediate Level) or Gujarati

(Regional Language - L.L.) (if English is offered under 1 above.)

3. Science and its Impact on Life

II Elective Subjects:

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (Whichever is not offered under 1-2 above)

5. Elements of Commerce

6. Commercial Geography

7. Elements of Economics

8. Commercial Arithmetic & Accounts

or

Algebra - Geometry - Trigonometry

or

Elementary Mathematics

Group 4 - AgricultureI Compulsory Subjects:

1. Mother Tongue or Regional Language (H.L.)
2. Hindi (L.L.) or A Modern Indian Language
(if Hindi is offered under 1 above)

or

English (Intermediate Level) or Gujarati
(Regional Language- L.L.) (If English is offered
under 1 above)

3. Social Studies and their Impact on Life.

II. Elective Subjects:

any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

5. Algebra - Geometry - Trigonometry

or

Arithmetic & Book-keeping

6. Agricultural Biology and Chemistry

or

Physica & Chemistry

or

Biology

7. Tillage & Soil Management

8. Animal Husbandry & Dairy Science

Group 5 - TechnologyI. Compulsory Subjects

1. Mother Tongue or Regional Language (H.L.)
2. Hindi (L.L.) or A Modern Indian Language (if Hindi
is offered under 1 above)

or

English (Intermediate Level) or Gujarati
(Regional Language - L.L.) (If English is offered
under 1 above)

3. Social Studies and their Impact on Life.

II Elective subjects:

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

5. Geometrical & Machine Drawing

6. Algebra - Geometry - Trigonometry

7. Physics & Chemistry

8. Workshop Practice

9. Elements of Electrical & Mechanical Engineering

10. Building Materials and Construction

Group 6 - Fine Arts

I Compulsory Subjects:

1. Mother Tongue or Regional Language (H.L.)

2. Hindi (L.L.) or A Modern Indian Language (if Hindi
is offered under 1 above)

English (Intermediate) or Gujarati

(Regional Language - L.L.) (if English is offered
under 1 above)

3. Social Studies and their Impact on Life.

II Elective Subjects

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

5. Cultural History of the World

6. Art History of the World and Art Appreciation

7. Art & Painting

8. Clay - Modelling and Sculpture

9. Indian or European Music (Vocal)

10. Indian or European Music (Instrumental)
11. Indian Dance

Group 7- Home Science

I. Compulsory Subjects

1. Mother Tongue or Regional Language (H.L.)
2. Hindi (L.L.) or A Modern Indian Language (if Hindi is offered under 1 above)
English (Intermediate) or Gujarati
(Regional Language- L.L.) (if English is offered under 1 above)
3. Social Studies and their Impact on Life.

II. Elective Subjects:

Any 3 or 4 of the following:

4. English (H.L.) or Hindi (H.L.) (whichever is not offered under 1-2 above)
5. Household Management
6. Food Nutrition & Cookery
7. Child Development & Mother Craft
8. Physiology & Hygiene

or

Biology

or

General Science

9. Elements of Economics

Group 8 - Post Basic Education.

I Compulsory Subjects:

(a) Languages:

1. Mother Tongue or Regional Language (H.L.)
2. Hindi (L.L.) or A Modern Indian Language (if Hindi is offered under 1 above)

or

English (Intermediate Level) or Gujarati

(Regional Language- L.L.) (if English is offered under 1 above.)

(b) Core Subjects:

3. Arithmetic - Accounts; Algebra; Practical Geometry

4. Any One of the following basic crafts:

i) Hand Spinning & Weaving (including Tailoring)

ii) Agriculture and Animal Husbandry

iii) Building Construction (including Woodwork
Technology)

5. Any one of the following:

i) Music;

ii) Drawing

iii) physical Education.

II Elective Subjects:

Any two of the following:

6. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

7. A Classical Language

8. History of India (Including Indian constitution
and civics)

or

Social Studies

or

Social Reconstruction

9. Panchayat Raj

10. Physical and Human Geography

11. General Science

or

Physiology & Hygiene

or

Home Science

Group 9- General (including Vocational Subjects).

Compulsory Subjects:

1. Mother Tongue or Regional Language (H.L.)

2. Hindi (L.L.) or A Modern Indian Language (if
Hindi is offered under 1 above)

or

English (Intermediate Level) or Gujarati
(Regional Language - L.L.) (if English is offered
under 1 above)

3. Social Studies and their Impact on Life.

or

Outline of World History

or

History of India (including Indian constitution and
Civics)

or

Social Reconstruction

4. Science and their Impact on Life)

or

Physics & Chemistry

or

Biology

or

Physiology & Hygiene

or

Home Science

II Elective Subjects:

Any 2 or 3 of the following:

5. English (H.L.) or Hindi (H.L.) (Whichever is not
offered under 1-2 above)

6. A Classical Language

7. Elementary Arithmetic

8. Any one of the following Vocational Subjects:

1. Hand Spinning & Weaving

2. Power Weaving

3. Tailoring and Cutting

4. Sewing Embroidery and Fancy work

5. Dyeing Technology and Calico Printing

6. Chemical Technology

7. Job Training for a Turner, Fitter; Welder, or Machinist
8. Lathe Work & Moulding
9. Automobile Engineering
10. Radio Engineering
11. Radio Service
12. Agriculture & Dairy Science
13. Building Construction
14. Woodwork Technology
15. Furniture Design & Estimating
16. Interior Decoration
17. Typography
18. Surveying
19. Civil Draftsmanship
20. Bookkeeping & Typewriting
21. Typewriting and Shorthand
22. Fishery
23. Leather work
24. Metal Work
25. Library Science
26. Journalism
27. Office Management
28. Nursing
29. Hotel Management and Catering
30. Physical Education
31. Public Health Education Sanitation
32. Panchayat Administration
33. Cooperative Society's Administration
34. Training for Social Work
35. Military Studies.

ANNEXURE VI

III. Higher Secondary Education

Total Teaching time and its Subject-wise Distribution.

	Std. XI	Std. XII	Total
<u>Total time available for teaching work:</u>			
i) Weeks	35	30	65
ii) Days	210	180	390
iii) Periods of 35 minutes per week.	50	50	-
iv) Total periods in a year.	1750	1500	3250

Subject-wise Distribution of periods.

1. Gujarati			
Hindi or English	12 420	360	780
2. Core Subject	4 140	120	260
3. Elective Subjects	30 1050	900	1950
(Three or Four			
(Atleast six and not more than 10 for each subject)	(6-4)	(210-350)	(180-300) (390-650)
4. Compulsory Activities: (P.E. & Co-curricular).	4 140	120	260
	50	1750	1500
			3250

EDUCATION COMMISSION
GOVERNMENT OF INDIA

In one of my earlier papers I had pointed out the great necessity of educating the rural leadership of to-day- a leadership whose general education is at the most of the standard of primary Class V or primary Class VIII. For this purpose, what we need is production of simple but very useful literature in all the modern languages of India.

An experiment from this point of view has been undertaken in Maharashtra State. An institution called Samaj Prabodhan Sanstha has been organized (I am one of the Trustees). The object of this Sanstha is to produce the useful literature needed by rural leadership in Marathi and in such a simple language that it can be understood by persons whose general education is only of the primary level. A large number of publications have already been brought out and others are in preparation. A small pamphlet in English which has been specially prepared by the Sanstha to give the members of the Education Commission an idea of the work that is being done is enclosed.

In preparing these brochures, every care is taken to see that they can be understood by the people we have in view. For this purpose, the manuscript of the book is actually tried out on a number of people before it is finalized.

The note is being placed before the Commission in the hope thatt an account of this experiment may help in formulating the proposals for the proper education of the rural leadership of to-day.

J.P.Naik
Member-Secretary
Dec. 19, 1964.

To

P.S. to Chairman
All Members of the Commission
All Officers of the Commission.

Vth Meeting/ EC
Item No.12

EDUCATION COMMISSION
(GOVERNMENT OF INDIA)

Sir John Newsom, who was the Chairman of the Newsom Committee (half of our future) and who is now the Deputy Chairman of the Plowden Committee on Primary Education, would be available to work as Consultant to the Education Commission. He is prepared to come to India from November 4-16, 1965. The Commission may kindly approve the proposal to invite Sir John Newsom as a Consultant to the Education Commission.

J.P. Naik
Member Secretary
28-12-64

P.S To Chairman

All the members of the Commission

All officers.

Vth Meeting/ Education
Commission
Item No.13.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

...

It has been proposed that Dr. C. E. Beeby be invited to be a consultant to the Commission. His curriculum vitae is given below. The cost on account of this proposal can be met from the funds placed at our disposal by Unesco.

The matter is placed before the Commission for approval.

Curriculum Vitae of Dr. C.E. Beeby

...

- 1938 - 48 ... Director of Education, New Zealand
- 1949 -..... Director, Department of Education, Unesco.
- 1950 - 1958 : Director of Education, New Zealand
- 1959 - 1964 : New Zealand Ambassador to France.
- 1960 - 1964 : Chairman, Unesco Executive Board.

Chairman, First Commonwealth Education Conference.

Author of several books on Education in New Zealand.

Consultant to World Bank.

At present Visiting Professor (with Adam Carle),
Centre for Studies in Education and Development,
Graduate School of Education, Harvard University,
where he is incidentally directing a study on the
evolution of education systems.

J. P. NAIK
Member-Secretary
29-12-1964

P. S. to Chairman.

All Members of the Commission

All Officers of the Commission.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

Major issues proposed for discussion with the State
Government of Rajasthan

INTRODUCTORY

1. What are the special features of the development of education in Rajasthan and what are the special difficulties and handicaps of the State Government in securing further expansion and improvement of education in the State?

ELEMENTARY EDUCATION

2. What are the proposals of the State for fulfilling the directive of Article 45 of the Constitution? In order to make this programme feasible, it may be desirable

(i) to adopt reduced hours of instruction (three hours per day) in classes-I and II; and

(ii) to introduce a system of part-time instruction in the age-group 11-14 on a large scale.

What is the reaction of the State Government to these proposals?

3. What programmes are contemplated by the State Government for improving the quality of elementary education? In particular, what is the policy of the State Government in regard to -

(i) lengthening of the training course to two years;

(ii) expanding and improving the training programme and introducing in-service training;

(iii) basic education; and

(iv) free supply of books and writing materials to all children.

4. What has been the experience of the State Government in the administration of primary education through the Panchayat Samitis? Are any changes contemplated in this regard?

SECONDARY EDUCATION

5. The Chatterjee Committee has recommended that the total duration of the school course should be increased to twelve years. What is the policy of the State Government in this regard?

6. What is the experience of the State Government with regard to multi-purpose schools?

7. What is the programme of the State Government for improving the quality of secondary education? In particular, what are the programmes of the State Government for training of teachers, provision of buildings and equipment, strengthening the teaching of science and examination reform?

HIGHER EDUCATION

8. What is the view of the State Government with regard to selective admissions to higher education?

9. What is the view of the State Government with regard to the medium of instruction at the university stage and the allied problem of the three-language formula at the school stage?

10. What measures should be adopted to deal with the problem of student indiscipline?

11. What measures would the State Government propose for securing coordinated development of the universities in the State?

ADULT EDUCATION

13. What changes in the remuneration of teachers at the various levels are being contemplated by the State Government, especially in view of the recent price-rise? In particular, would it be possible to introduce a pension scheme for teachers in aided schools? What are the indirect benefits (such as free education for children etc.) now provided by the State Government for teachers? Would it be possible to organise a regular scheme of welfare services for teachers and, if so, on what lines?

14. What are the proposals of the State Government to expand programmes of student aid (inclusive of scholarships) at the middle, secondary and higher stages of education?

VOCATIONAL EDUCATION

15. What steps should be adopted to meet the shortages of manpower in certain crucial sectors and the growing problem of unemployment among the matriculates and graduates? In particular, what measures should be adopted to divert students into vocational courses at the end of the middle school and secondary school courses?

16. What are the proposals of the State Government to develop agricultural education, with special reference to the development of agricultural research and the provision of extension services for the education of farmers? To what extent and in what manner could agricultural education be incorporated in the general system of education at the school stage?

17. What are the proposals of the State Government for the development of technical and vocational education at the secondary and university stages?

EDUCATION OF SPECIAL GROUPS AND CLASSES

18. What are the proposals of the State Government for the development of the education of girls and women which is specially lagging behind in the State?

19. What are the measures contemplated to develop education among the Scheduled Castes and Scheduled Tribes?

PRE PRIMARY EDUCATION

20. What should be the role of the State in developing pre-primary education? What measures can be adopted to spread it in rural areas and among the poorer sections of the urban population?

ADMINISTRATION AND FINANCE

21. Should education be a concurrent subject? Or, as the Sapru Committee has recommended, should at least higher education be a concurrent subject?

22. What are the difficulties experienced at present in respect of Central grants for education? How should the financial responsibility for education be divided between the Centre and the States in future?

23. As some of the major difficulties experienced in the implementation of educational programmes are administrative, how does the State Government propose to strengthen and improve its Education Department?

24. What are the views of the State Government with regard to increasing the resources available for education through -

(a) increase of fees at the secondary and higher stages;

(b) levy of betterment funds from students at these stages;

(c) imposition of an educational cess, both in urban and rural areas; and

(d) popular contributions and donations?

GENERAL

25. Are there any other problems or programmes which the State Government would like to bring to the notice of the Education Commission?

Item No.15

(EDUCATION COMMISSION)

Subject: Staff of the Commission

The following is a copy of D.O. letter No.96-Edn./65 dated 4th January, 1965, from Deputy Financial Adviser (Education) addressed to Shri P.N. Kirpal, Secretary, Ministry of Education :

"Please refer to your D.O. letter No.3ecy. (Edn.)/1/65 dated 1st January, 1965, to Shri Dehejia regarding the sanction of the secretariat staff of the Education Commission. Finance Secretary has approved to the sanction of the staff as given in Annexure I. As stated in your letter we have noted that the additional staff would be within the budget provisions accepted by us (and which are yet to be voted by Parliament)".

The matter is placed before the Commission for information.

JP NAIK
MEMBER-SECRETARY

ANNEXURE I

STATEMENT SHOWING THE IMMEDIATE REQUIREMENTS
OF STAFF FOR THE EDUCATION COMMISSION

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Officers	Total posts required	Posts already sanctioned	Additional posts required	Remarks
Members	5(Fulltime)	5	-	
Deputy Educational Adviser	3	1	2	
Deputy Secretary	1	1	-	
Assistant Educational Adviser	5	2	3	
Research Officer	1	1	-	
Assistant Education Officer	3	-	3	
Private Secretary	1	-	1*	*One post of Stenographer Gr. I has already been sanctioned in the scale of Rs.350/400-650.
Librarian	1	-	1@	This is now to be converted to that of Private Secretary in the scale of Rs.400 to 680.
Section Officer	1	-	1	
<u>ESTABLISHMENT</u>				
Stenographers	17	8	9	
Steno-typist	1	1	-	
Assistant	3	1	2	
Acctt. cum-cashier	1	1	-	@One post of Librarian-cum-Statician has already been sanctioned in the scale of Rs.210-425. This is to be converted to the post of Lib. I in the scale of Rs.350-900.
U. D. C.	3	2	1	
L. D. C.	9	6	3	
Investigator	4	4	-	
Res. Assistant	3	-	3	
Artist	2	-	2	
Staff Car Driver	1	1	-	
Receptionist	1	-	1	
Gestetner Operator	1	1	-	
Daftry	1	-	1	
Peon	12	7	5	
Sweeper	2	-	2	
Farash.	1	-	1	
Chowkidar	1	-	1	

A note on some problems of Indian Education

BY

Shri Morarji Desai

1

Need for development of Education

Proper development of Education is vital to the progress of any nation and more particularly to a country like India where for many decades, millions of its people have been kept away from the opportunities of education. I, therefore, attach supreme importance to the development of a right kind of education in India. Not only should it receive greater attention but it should also be given the highest priority in our development programmes. Integrated development of the personality of a man through education should be the foremost concern of any Government. I have no doubt in my mind that the progress of our nation depends largely on how and to what extent we develop the education of our people. When I was in the Government of Bombay we had decided that at least 20% of the total amount of its annual expenditure should be spent on education. The actual expenditure went upto nearly 23%. It is high time that the Governments should adopt a similar measure of setting apart 25 to 30% of their expenditure on education.

2.

Object of Education

It is not enough to accept the importance of education in terms of the amount that will be spent by the Government. This is a physical measure and cannot by itself yield the anticipated result. We should be clear about the objectives of national education. The integrated development of personality of the student cannot be unrelated to the social order envisaged by the constitution of India. This means that the content and effect of education should not be inconsistent with the emerging social order. Any system of education in India must promote equality of opportunity and human status in our society. It should be, therefore, aimed at the elimination of special privileges for a section of society. This requires that we should evolve a pattern of education which is firmly opposed to the creation of any privileged class or section, at least during that period of education which should be universal and compulsory for all. Secondly it is important that education should be work-oriented through some kind of productive activity aimed at the full development of the child.

3

Mahatma Gandhi's Views on Education and Language

Mahatma Gandhi attached the highest importance to Education in the programme of national reconstruction.

He had written extensively on education. I hope all members of this Commission are fully aware of this fact. Mahatma Gandhi's ideas on education are the greatest legacy of modern India which it can ill-afford to forget. He had a thorough grasp of educational problems in India and suggested practical measures to resolve them. He experimented on work-oriented education in Phoenix and Tolstoi Farm during his stay in South Africa. He established the Gujarat Vidyapith and conducted a successful experiment of higher education through the medium of mother tongue. He gave the idea of Basic Education emphasizing the imperative need of implementing the educational principle of learning through doing. From the very beginning of his public life in India until the eve of Independence he voiced his greatest concern about the cultural degeneration and demoralisation of our people as a result of the dominance of the English language in our life. In the issue of Harijan dated 21.9.1947 he wrote:-

"Unless the Government and their Secretariats take care, the English language is likely to usurp the place of Hindustani. This must do infinite harm to the millions of India who would never be able to understand English. Surely, it must be quite easy for the provincial languages and the inter-provincial language which, in my opinion, can only be Hindustani-written in Nagari or Urdu script.

Every day lost in making this necessary change is so much cultural loss to the nation. The first and foremost thing is to revive the rich provincial languages with which India is blessed. It is nothing short of mental sluggishness to plead that in our courts, in our schools and even in our secretariats, some time, probably a few years must lapse before the change is made".

* * *

Education based on Indian Needs

The pattern of education in India should be based essentially on Indian experience and should be examined from the point of view of the needs of Indian Society which has many distinct characteristics. While the help of foreign experts is useful in devising new techniques of teaching or learning, I am not sure, with all due respect to them, whether they can be of much help in devising the national pattern of education consistent with the values, needs and aspirations of our people. While we shall be thankful to them for their abiding interest in the educational development of India. I must say that their advice will be valuable only in the fields of methodology and scientific education.

There is a widespread feeling that the national education - the movement which started during the

freedom struggle under the guidance of Gandhiji, Tagore and others - is not represented on the Commission. There are many scholars who devoted their energies to and experimented in national education during the last five decades. Their knowledge and experience of educational problems in India is quite rich and their presence in the Commission would have ideally counter-balanced the presence of our foreign friends, which would have given the Commission a sound base of both traditionally national as well as modern education.

5

Resolutions of Congress on Education

The Congress under Gandhiji's guidance has from time to time passed many resolutions and adopted many programmes on education. These resolutions are pledges given to the people of India during our freedom struggle and it is dangerous to reverse them now. The latest resolution on the language question adopted by the Congress Working Committee on 5th April, 1955 forms the basis of the present language policy of the Government of India. The report of this Commission will lose all significance if it does not show that it had taken adequate pains to study fully all that we have pledged to our people before attaining Swaraj. Unless the Commission can prove that what we pledged was wrong, it must devote itself to devising effective ways and means of translating them into immediate action.

6

Need for implementing settled policies

prior to the setting up of this Commission several Commissions have given extensive reports on our educational problems and the Congress Working Committee and the Parliament have also come out with definite policy decisions. In view of the ground covered so far by the previous commissions; Parliament, Government and the Governmental Committees, many of us wonder what new recommendations the present Commission will be able to make. It will be a fruitless exercise if we begin to re-examine everything. In fact we are guilty of delaying even those things on which there cannot be much difference of opinion.

7

Should Education be Concurrent Subject?

A suggestion is being discussed that in order to raise standards or to co-ordinate education, we should resort to making education a Union subject or Concurrent subject. The present constitution provides enough powers to the Union and there is absolutely no justification to increase these powers. If India

has to live according to the accepted principle of Unity in diversity, we should not expect the State to surrender their rights in matters like education and culture. Any attempt to change these provisions of the Constitution will vitiate the very basis of the Constitution.

8

Elementary Education

The moment I think of education, I shudder at the condition of Elementary Education in India. I consider Elementary Education as the basis foundation on which the whole system of Indian education should stand. It was a mistake to appoint University Education Commission first without any prior consideration of the problems of elementary education. We also appointed a Commission for Secondary Education but we did not think of Elementary Education in any important way. I am glad to find that the terms of reference of this Commission cover all aspects of education including Elementary Education. I hope the Commission is fully alive to this and gives the subject of elementary education highest priority. This is the field of education in which greatest neglect has been shown.

9

Free Compulsory Education

Article 45 of the Constitution of India enjoins on the State to provide universal free compulsory education up to the age of 14. This is the most vital provision of our constitution for translating the objective of Art.38 into practice. The success of our democracy largely depends on how effectively the Governments implement this provision. This requires a uniform national pattern of seven years' national education for all. This education if it has to remain universal must be by and large a State enterprise. It is so in a large measure but the liberty that is allowed to a few private high schools to conduct 5,6,7, classes of elementary education has been used to destroy the universal character of elementary education. These high schools with classes 5,6,7 attached to them have worked to create new disparities and distinctions that strike at the root of the entire basis of our social order. We must, therefore, immediately bring it under uniform national pattern contemplated by the Constitution. Since seven years' universal education is the minimum that the State must provide, there should be no divisions like senior, junior etc. during this period. New high schools should

not be permitted to conduct classes 5,6,7. Even the existing high schools should not be permitted to conduct these classes any more. The worst effect of these two different systems, is on primary teachers whose salaries are different in elementary schools with classes 5,6,7 managed by the Government and Private high schools with the same classes attached to them even though these teachers possess the same qualifications and discharge the same kind of duties. The vast number of students who will undergo this stage of education by itself should be a convincing fact for not permitting the teaching of a foreign language or any such subject during 7 years' elementary education as it is impossible to do so for all children. When a section of the people is allowed to avail of a special facility with Government assistance the Government becomes directly responsible for curtailing the right of equal opportunity for every citizen.

10

Secondary Education.

Secondary Education, i.e. class 8 to 11 or 8 to 12 should be left by and large to voluntary effort and Pre-University courses may be added here. It is a good suggestion to extend the duration of secondary education to 5 years for high schools by adding pre-university class to them. The teaching of a foreign language may be introduced here providing sufficient option to students to offer one of the important foreign languages of his choice. On account of our history, English will be the foreign language generally accepted.

11

Training of Teachers

There is a great need of giving special attention to the training of teachers both for elementary schools as well as for high schools. The training of teachers should be imparted with a view to cultivating a sense of greater responsibility and making them alive to the inherent duties required by a teacher in performing his job. The content and value of our education largely depend on teachers and therefore, concerted efforts should be made to inculcate in the teachers qualities of devotion, integrity, patriotism and social service.

12

University Education

In the field of University Education Maximum freedom and autonomy should be allowed to the universities and the Government should not interfere in their normal working. Each university should be encouraged in maintaining its distinct character and its past traditions. There should be diversity even in the composition of University bodies. The contents of the university courses need radical change and unless they are related to some kind of practical work by the students we will not be able to achieve much.

13

Public Schools

The Commission should consider whether the system of public schools or English medium schools in India is conducive to the egalitarian social order to which we are committed. These public schools which are mostly run for imparting education to the children of a few rich people have become pockets of aristocracy and when they are permitted to impart even elementary education they become powerful instruments of accelerating and enhancing economic and social disparities in India.

14

Language Controversy

The language problem continues to be unnecessarily controversial due to the fact that those who are responsible for implementing the basic policies in this regard are doing so with a split mind. We have repeatedly assured our people of running the administration and imparting education at all stages in Indian languages. This is a pledge from which we cannot go back nor can we be lukewarm in honouring it. No country can permanently keep its millions of people away from the benefits of administration and education. The priority which is being given to the English language is acting as a great barrier in this respect. Unless this barrier is removed it is impossible to educate our masses properly and enthuse them for participating in our development programmes. To continue to conduct our administration and to impart education in a foreign language which is known to less than 2 per cent of our people, is untenable from the point of view of a democratic order. We should, therefore, immediately switch over to the medium of Indian languages which are known to our masses. This

obviously means Hindi in the Central Administration and regional languages in the States. There may be initial difficulties but unless they are faced courageously we can never resolve them. The moment we earnestly begin to run our administration and impart education in Indian languages, we will find it easy to go ahead. After all no language can ever develop without its actual use. Persian became a very rich language because it was the language of Moghul administration. It became dead, when the British administration gave it up!

15

Hindi as Official Language

The constitution has prescribed Hindi as the Official language of the Union. Its form has been defined by Article 351. The Constitution requires the use of Hindi in running the Union administration and in communication with the States. We have extended the use of English concurrently for sometime more to enable the people of non-Hindi speaking areas to learn Hindi adequately. In most of the non-Hindi speaking areas the propagation of Hindi is being done on an extensive scale. The large number of people appearing in the examinations of Dakshin Bharat Prachar Sabha is a convincing proof that people in South are not averse to learn Hindi, provided the work of propagation is left to them. I consider it a very important principle that people of Hindi-speaking areas should not make any efforts to directly propagate Hindi in non-Hindi speaking areas. Such a practice will remove any apprehensions in their mind that may exist. I have no doubt that left to themselves they will be able to learn it in a very short time. The Union Government must do every thing for encouraging their efforts in this direction. It is the duty of the Union Government to ensure that nothing is said or done to shake the faith of the people in the settled fact of the Indian Constitution about the official language. When those in charge of it, themselves create a climate of uncertainty we cannot expect to fulfil our object of establishing ultimately Hindi as the official language of the Union. The Union Government should also come forward with a series of measures which will enrich Hindi and regional languages. The intention of the Union Government will not be questioned if the work of developing Hindi is done in a way that does not undermine the development of regional languages.

16

Medium of Higher Education

It is a matter of great regret that the universal principle of mother tongue as the medium of instruction has also been made the subject of controversy. Education at all stages and in all branches must be given through the mother tongue. If we agree that it should be so

in elementary and secondary education, how can we expect a student to grasp the subject in higher education through a medium of a foreign language? There has been a tremendous waste of the energies of our younger generation on account of the burden of the medium of a foreign language. It is criminal to allow this to continue for a long time. The Commission should, therefore, draw up a schedule of systematic switching over to regional languages and/or Hindi as a medium of instruction in our Higher Education. No exception should be made to any particular branch of learning, like Science or Technology or Medicine. If the principle of mother tongue as a medium of instruction is sound for one branch of learning it cannot be unsound for another branch. If standards of education are not judged merely by the expression of English, as is being done today, the standard of understanding and expression in the mother tongue and Hindi will definitely go up when the mother tongue is the medium of instruction.

17

Problems of Textbooks

It is being argued that there are no text-books for conducting higher education in Indian languages and therefore we should sit with folded hands until text-books are ready. This is a very strange argument. How can text-books be written or published unless one is sure that they are going to be immediately used? This again requires a determined effort to implement what we agree to rather than go on repeatedly emphasizing what we are not able to agree to or what we are unable to do. Those universities which have already switched over to regional languages should be strengthened and encouraged and no effort should be made to undermine their work in this direction.

18

Problem of Mobility

The question of mobility of students and teachers is also frequently raised. This can be surely met by keeping few universities as Central Universities and making every university student and teacher learn adequate Hindi. It may be recalled that even those universities which have switched over to the regional language as a medium of instruction, have permitted students of other languages to write their answers in Hindi or even in English and allowed teachers to teach in Hindi or English.

19

Place of English in Schools

It hardly needs any argument to prove that all efforts of the British Rule for over two hundred years have resulted into hardly one per cent of our people being able to know English well. This one per cent

of the population know English well only because of the fact that most of these people studied through the English medium. When this is not possible any more why should we waste our time and energy in making all our boys and girls speak and write English of a very high standard. Apart from the harm such efforts cause to our social objectives, it does not seem to be feasible. The learning of English for most of our people therefore, cannot be more than what is required for comprehension and conversation. To acquire such working knowledge of English one does not have to learn it for many years. The present race of teaching English from early years in elementary schools is not out of a genuine desire to learn English but due to special circumstances prevailing in the country that compel one to run after English to improve his or her economic lot. This race therefore, will never improve standards of English. On the contrary the moment we decide on the aim of teaching English for its minimum common attainment for the whole country, this race will stop. The standards of English has not improved despite all efforts to teach it even from Std.III. It is evident that no amount of efforts can give the standard of English available before unless the medium of teaching is English. The only course open to us then is to introduce teaching of English from the point of view of language, in high schools, i.e. from Std.8 to 11 in an intensive way and carry the same process further in universities. While the common standard of English for all students may not be very high, we should make every possible effort to encourage its learning for those who want to do so genuinely as a result of their aptitude and future use. It may be recalled here that on the eve of our independence in 1946 a conference of Education Ministers was held at Poona to consider the place of English in education. The conference after mature consideration decided that English should be taught as a third language and not as a first or a second language. They decided the principle of not introducing a foreign language in elementary education and concluded that English should be taught only from Std.VIII. Later the Central Advisory Board of Education also fixed up the quantum of English to be taught. Now if one can teach this prescribed amount of English in four years I do not understand why we should interfere in the period of universal fundamental education which should be devoted to strengthening the mother tongue and Hindi as languages and Maths., Elementary Science and Social Studies as other basic subjects. When for an overwhelming number of students the terminal point of their studies is 7 years of elementary education it is no use introducing during this period the study of a foreign language which will obviously weaken their studies and other basic subjects. The place of English in our curriculum should, therefore, be decided from the point of view of whom we want to serve. The moment we accept this fact of most of our children being unable to go beyond 7th class we cannot deny that their needs should prevail. It is with this aim that I am firmly opposed to the introduction of the study of any foreign language before Std.8. I believe that our democracy will become meaningless if a large majority of our population cannot participate in the administration of the country due to their ignorance of English language. We cannot allow the class of English knowing rulers to perpetuate itself. Mahatma Gandhi foresaw the prevailing mentality to cling to the unnatural place of English in our life and wrote as follows in the Harijan of 25th August, 1946: -

"I must cling to my mother-tongue as to my mother's breast, inspite of its shortcomings. It alone can give me the life giving milk. I love the English tongue in its own place, but I am its inveterate opponent if it usurps a place which does not belong to it. English is today admittedly the world language. I would therefore, accord it a place as a second, optional language, not in the school but in the university course. That can only be for the select few not for the millions. Today when we have not the means to introduce even free compulsory primary education, how can we make provision for teaching English? Russia has achieved all her Science progress without English. It is our mental slavery that makes us feel that we cannot do without English. I can never subscribe to that defeatist creed".

20

The Gujarat Vidyapith is preparing an elaborate memorandum on all aspects of education, for the consideration of the Commission. I have preferred to express my views on some immediate matters connected with the pattern of education and language problem. I feel that unless we resolve them first it would not be possible to do much in reconstructing our educational system.

Item No. 17

(EDUCATION COMMISSION)

Subject: Persons to be interviewed by the Commission

It has been decided that the Education Commission should interview informally a few top ranking educationists with a view to identifying the major problems to be tackled in educational reconstruction and their tentative solutions. The idea is that each of these persons would be invited to meet the Commission as a whole for about one to two hours and that a regular programme for this purpose should be arranged between now and the end of March, 1965.

From this point of view suggestions regarding persons to be interviewed were called for from all the Members of the Commission. The proposals received have been consolidated in the enclosed list.

The matter is placed before the Commission for discussion and decision.

(J.P. NAIK)
MEMBER SECRETARY.
6.1.1965.

List of persons to be interviewed
by the Commission.

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1. Dr. S. Radhakrishnan,
President of India.
2. Dr. Zakir Husain,
Vice-President of India.
-
3. Prof. Humayun Kabir
4. Dr. K.L. Shrimali
-
5. Shri Ashok Mehta
6. Dr. V.K.R.V. Rao
7. Prof. M.S. Thacker
8. Shri Tarlok Singh
-
9. Shri C. Subramaniam,
Minister for Food & Agriculture
10. Shri T.T. Krishnamachari,
Minister for Finance
-
11. Dr. Sampurnanand,
Governor of Rajasthan.
12. Dr. A.N. Khosla,
Governor of Orissa.
-
13. Dr. Tara Chand
14. Dr. S. Bhagwantam
15. Dr. H.J. Bhaba
16. Dr. G.C. Chatterjee
17. Shri J.C. Mathur
18. Dr. A. Appadorai
-
19. Shri J.R.D. Tata
20. Shri G.D. Birla
21. Shri Kasturbhai Lalbhai
22. Shri Bharat Ram
23. Shri Charat Ram
-
24. Prof. Hiren Mukerjee
25. Pt. H.N. Kunzru
26. Prof. A.R. Wadia
27. Col. B.H. Zaidi
28. Shri Frank Anthony
29. Shri M.R. Masani
30. Seth Govind Das

31. Shri Parkash Vir Shastri.
32. Shri P.N. Sapru
33. Dr. L.M. Singhvi
34. Shri P. Govinda Menon
35. Shri H.V. Kamath
36. Shri Indrajit Gupta
37. Smt. Renu Chakravarti
38. Shri A.C. Guha
39. Dr. Nihar Ranjan Ray
40. Shri A.D. Mani
41. Shri G.S. Pathak
42. Shri B.N. Prasad
43. Shri A.E.T. Barrow

44. Dr. A. Laxmanswami Mudaliar
45. Sir C.P. Ramaswami Iyer
46. Dr. C.D. Deshmukh
47. Prof. M. Mujeeb
48. Dr. D.C. Pavate
49. Dr. P. Parija
50. Dr. Govindarajalu
51. Dr. S. Dhavan
52. Dr. S.D. Pande, Pilani
53. Dr. Samuel Mathai
54. Dr. D.S. Reddi
55. Dr. George Jacob
56. Dr. M.S. Mehta
57. Dr. A.C. Joshi
58. Shri S.R. Das

59. Shri K.V.S. Raman
60. Prof. P.C. Mahalanobis
61. Shri D.R. Gadgil
62. Shri D.V. Potdar
63. Dr. R.P. Paranjpe
64. Justice Bashir Ahmed
65. Prof. R.D. Chowksi
66. Dr. Diwan Chand Sharma
67. Shri G.D. Parekh
68. Shri Chanchil Sarkar
69. Dr. Mulk Raj Anand

70. Shri K.M. Munshi
71. Shri C. Rajagopalachari
72. Shri Morarji Desai
73. Shri N.G. Ranga
74. Dr. Shankar Dayal Sharma

75. Shri Jayaprakash Narayan
76. Shri U.N. Dhebar
77. Shri G. Ramachandran
78. Shri Avinashalingam Chettiar
79. Shri Achyut Patwardhan
80. Shri Anna Sahib Sahasra Buddhe

81. Shri Maghanbhai Desai
82. Shri Jugat Ram Dave
83. Shri H. Radhakrishnan
84. Shri K. Arunachalam
85. Shri E.W. Aryanayakam
86. Smt. Ashadevi Aryanayakam
87. Prof. U.A. Asrani
88. Acharya S.R. Bhise
89. Smt. Tarabai Modak
90. Shri R.S. Upadhyaya

Vth Meeting of the E.C.
8-9 Jan. 65 Item No. 18
EDUCATION COMMISSION
GOVERNMENT OF INDIA

....

Members of the Commission were requested to prepare important questions which the Commission might consider. The replies received have been consolidated in this paper. The only attempt made is to group the questions under the following broad categories:-

- I. The National System of Education (10 questions)
- II. (a) School Education (16 questions)
(b) Secondary Education (36 questions)
- III. Higher Education and Research (38 questions)
- IV. Structure, Curriculum, Evaluation and Teaching Methods (8 questions)
- V. Teachers (23 questions)
- VI. Standards and Development of Talent (9 questions)
- VII. Adult Education (9 questions)
- VIII. Manpower (1 question)
- IX. Technical, Vocational and Professional Education (10 questions)
- X. Educational Administration (28 questions)
- XI. Educational Finance (7 questions)
- XII. Strategy of Development (1 question)

There is a certain repetition because some points were raised by more than one member .

The initials of the member suggesting the question are given at the end of each question or the authorship has been indicated in some other suitable manner.

J.P. Naik
Member-Secretary

To

P.S. to Chairman
All Members of the Commission
All officers of the Commission.

I The National System of Education

1. A critical discussion of the pattern of the new social order that we envisage for India, the various forces which are operative in making it, the values which we cherish as important and the relationship of education to this total process of reconstruction. (K.G.S.)

2. How can education be related more vitally to productivity and economic development in general, contributing not only to technical skills for the purpose but also to the attitudes and habits which are necessary in a modern and efficient society? (K.G.S.)

3. How can education be used both as a measure for promoting national integration and making the educated persons fully aware of their role as world citizens? (K.G.S.)

4. In our projected national system of education, how shall we ensure that its broadly national character is safeguarded but experiments and innovations both with a view to regional and local needs and improvement in quality are continuously encouraged? (K.G.S.)

5. What are the implications of a secular, democratic, technology-oriented socialist society in India for our educational system? (M.V.M.)

6. In what ways can Education help to awaken a sense of critical appreciation and evaluation of our cultural heritage and traditional philosophy of life and arouse creative effort to reorient and reinforce them to meet the challenges of the present times? (V.S.J.)

7. Implications of a national system of education. Educational goals and objectives in terms of national aspirations, needs and culture. (S.P.)

8. The role of education in the social, economic and political development of the country:

(a) How can education develop attitudes and inculcate values to enable the individual to play his role in society - as a person, a citizen, a worker and a member of society?

(b) Education and Productivity - developing knowledge and skills required for agriculture, industry and other productive professional work at different levels.

(c) Education and democracy as a way of life - developing a sense of responsibility and a capacity for independent and objective thinking - knowledge of rights and duties.

- (d) Education and National Integration - the role of education in promoting national integration and developing proper values and attitudes.
- (e) Raising standards of living through education - the role of the study of Science, technology and cultural subjects.
- (f) Education as related to life - participation in the life of the community - social and national service by students and staff - educational institutions at all levels being the centres of community service through their staff and students and through their libraries and laboratories. (S.P.)

9. Education and National Development:

- (a) In what ways can the education system of India contribute more effectively to social and economic objectives and the aspirations of our nation?
- (b) In what ways can our educational institutions participate in community life and serve it?
- (c) In what ways can the curricula of the different stages of education be designed so as to reflect more fully individual and social needs?
- (d) In what practical ways can education contribute to national integration?
(J.F.M.)

10. One of the most important purposes of education in the modern world is to develop a scientific mind and a scientific climate which will enable such a mind to function fruitfully. How can education at all levels lead towards this objective? (K.G.S.)

II-A. School Education

1. What should be the structure of school education, what should be its length and stages? (J.F.M.)

2. At what stages should diversification take place and what should be its forms? (J.F.M.)

3. What steps can be taken to ensure the rapid attainment of universal enrolment of the age-group 6-14? (J.F.M.)

4. What measures can be adopted to eliminate wastage and stagnation from our schools? (J.F.M.)

5. What should be the medium of instruction at the different school stages and what other languages can be taught? (J.F.M.)

6. In what ways can the curriculum at the different stages be improved and related to individual, community and national needs and interests? (J.F.M.)

7. What should be the qualification of teachers for the different stages of school education and what programmes of pre-service and in-service training should be pursued? (J.F.M.)

8. What action is needed to improve teaching methods and teaching materials including textbooks? (J.F.M.)

9. What special measures are necessary to ensure the education of girls and the children of underprivileged groups? (J.F.M.)

10. What programmes can be devised to educate children in the higher age groups who have never attended schools? (J.F.M.)

11. What can be done to improve the status and conditions of service of teachers? (J.F.M.)

12. In what ways can local communities contribute more effectively to the expansion and improvement of school education? (J.F.M.)

13. In what ways the existing system of examinations be improved? (J.F.M.)

14. In what ways can the existing system of school inspection be improved? (J.F.M.)

15. What can be done to improve existing procedures for the recognition of grant-aided schools and school management? (J.F.M.)

16. How best and how early can the constitutional directive for education be realised? (V.S.J.)

II-B SECONDARY EDUCATION

(Questions suggested by Shri A.R. Dawood)

1. Do the aims and objectives of secondary education, as stated in the report of the Secondary Education Commission need reformulation? If so, in what way do you think they should be reformulated?

2. With reference to the nature and type of the social order that we envisage for the future, what in your opinion are the new needs and requirements of the nation to which secondary education should be geared?

3. What should be the duration of secondary education? Should it be extended beyond the present high school or higher secondary school stage?

4. Should the educational course for admission to the first degree of the Universities be of 11 years, as it is in most States at present or of 12 years as recommended by several expert bodies in recent years? If the duration of the course is 12 years should Classes VI and XII be located in the school or the college?

5. Would you insist on a uniform pattern of school and college classes for the whole country, If you do what particular pattern would you recommend?

6. If you are not in favour of a uniform educational pattern for all the States, do you agree with the view that two national standards should be laid down: one for the end of the high school stage and the other for the end of the University course leading to the first degree? If you do what techniques and machinery do you think should be devised for assisting the States to attain these standards? What methods would you suggest that standards go on continually rising to keep pace on the advancing educational standards elsewhere?

7. Should the duration of the pre-university course for admission to the university be flexible or fixed? Should the total period of school and college classes be in any case less than 15 years?

8. Do you agree with the present 'open-door' policy of admission to secondary education? If you do, what suggestions can you make regarding the financial resources needed for the pursuit of such a policy.

9. If you are in favour of selective admission of students to full-time secondary education do you think the selection should be by qualifying test? If so, what kind of qualifying test would you propose? What are your views regarding selective admission on the basis of the results of a public examination at the end of the elementary stage?

10. What measures would you suggest for preventing the dilution of standards resulting from uncontrolled expansion at the secondary stage?

11. What special measures would you recommend for expanding the facilities for secondary education (a) in rural areas; (b) for girls?

12. What in your opinion should be the purposes and functions of a multipurpose school? Do you think the multi-purpose school with merely a vocational bias has a place in our educational system?

13. What measures would you recommend for making secondary education vocational to a substantial extent? What in your opinion are the possibilities of part-time vocational education at the secondary education level?

With reference to the present occupational patterns and our planned projections for the future what different kind of vocational courses should be provided for students completing the elementary stage, the high school stage and the higher secondary stage?

14. What are the basic weaknesses of the secondary school curriculum in your State? What steps would you suggest for removing these weaknesses?

15. How would you reconcile the demand for deepening the content of the curriculum for the purpose of upgrading educational standards with the general criticism that the curriculum is already heavy and overloaded? What in your opinion is a desirable curriculum load?

16. With reference to the curriculum what are your views of (a) a number of languages to be studied and their relative importance inter se? (b) the diversification of the studies and the stage at which it should be introduced; (c) the provision for core studies; (d) introduction of activities and terminal work for the training of the hand; (e) the building up of the right kind of interests, aptitudes and values; (f) the integration of the curriculum with programmes of national development? What do you think of the three-language formula and the nationalisation of textbooks in your State?

17. Are you in favour of a programme of religious or moral education being included in the secondary school curriculum? If so, how you would proceed to introduce such a programme?

18. In what way can the curriculum be made to cover the needs of the gifted and also the backward people? Do you approve of introducing ordinary and advance level courses to meet different needs?

19. To what extent have dynamic methods of teaching been introduced in secondary schools of your State? If such methods have had no impact on existing teaching practices is it done to (a) ignorance or apathy of the teachers; (b) lack of encouragement or cooperation from the school authorities; (c) absence of proper facilities in the schools?

20. To what extent can new techniques and methods such as school broadcast close-circuit television, language laboratories and programme learning be adopted, with suitable modifications in secondary schools in India?

21. What in your opinion should be the major goals of examination reform at the secondary stage? If external examinations are to continue in the foreseeable future, what measures would you suggest for the improvement of such examinations?

22. What measures would you suggest for reducing the high percentage of failures at the external examinations in the different States?

23. What in your opinion is the place of internal assessment in the evaluation of the students' educational growth? What suggestions can you make for enlarging the functions and improving the techniques of internal assessment? Do you think that the marks of internal assessment could be combined effectively with those of the external examination?

24. What in your opinion should be the minimum educational qualifications of teachers in classes VIII to X and in Classes IX-XII? Do you agree with the view that secondary teachers should have special knowledge of the subjects which they are called upon to teach? If you do, what methods would you recommend for giving them such subject knowledge?

25. What special measures would you propose for meeting the existing acute shortage of teachers in English, Science, Mathematics and the vocational subjects?

26. What concrete proposals would you make for a systematic and comprehensive programme of in-service education? Would you suggest a system of inducement and penalties for the execution of this programme?

27. To what extent do the salary scales of secondary school teachers in your State satisfy the criteria proposed by the Unesco Expert Committee on Teachers' status? Is there any difference between the salaries and allowances of teachers in Government and in non-Government service?

28. How would you provide for security of service for secondary school teachers? What measures would you suggest for giving the teachers social security in respect of sickness, maternity and old-age?

29. What are your views regarding private tuitions? Do you approve of private tuitions being replaced by the institutionalised tuitions for the help and guidance of intelligent and backward children arranged and paid for by the schools themselves?

30. Are the conditions of work in your school challenging? Are they conducive to team work and cooperative endeavour? Do they leave scope for planning and experimentation with new ideas by the teachers?

31. What are your views regarding (i) the minimum area required per student in the class-room; (ii) the maximum number of boys to be admitted in any class; (iii) the maximum strength of a school?

32. Do you think that a carefully organized programme of research is necessary for improving the type and design of school buildings and furniture with a view to increasing their functional efficiency?

33. What suggestions would you make for reducing the cost of school buildings?

34. Is it possible to improve the physical plant of secondary schools by securing larger contributions from local communities or voluntary agencies? What are your views regarding the 'betterment fund' introduced in the secondary schools of some States?

(Suggested by Dr. V.S. Jha)

35. In the list of the experience of the working of the multilateral secondary schools, what should be the content of education and standards to be aimed at the secondary schools

- (i) for those who will go to the university and institutions for higher education;
- (ii) for those who will be entering professions such as education; and
- (iii) for those whose formal education will terminate after secondary stage? (V.S.J.)

.....(Please see next page)

III - HIGHER EDUCATION

1. Are standards of attainment at the different degree-levels sufficiently high and does a mechanism exist for their continued review and adjustment? (J.F.M.)
2. What positive and practical measures should be adopted to ensure a coherent and rational policy of admission of students to universities? (J.F.M.)
3. What steps can be taken to ensure the recruitment, retention and continued improvement of high level teaching staff in higher education? (J.F.M.)
4. What programme of action should be adopted to identify talented students and provide for their full education? (J.F.M.)
5. What kinds of research should be promoted in higher education and how is this best done? (J.F.M.)
6. What steps are called for to improve the facilities and working conditions in universities and colleges? (J.F.M.)
7. What are the causes of student indiscipline and what programme can be devised to promote student welfare? (J.F.M.)
8. In what ways can teaching methods in universities and colleges be improved and a creative attitude to knowledge and research be cultivated among the students and teaching staff? (J.F.M.)
9. What should be the medium of instruction in higher education? (J.F.M.)
10. What should be the principles and objectives of the curriculum at the level of higher education and what machinery should ensure their application? (J.F.M.)
11. In what ways should the present examination system be modified? (J.F.M.)
12. What steps are necessary to improve the present administration of higher education? (J.F.M.)
13. What should be the principle that guide future expansion of higher education? (J.F.M.)
14. Should higher education be on the concurrent list? (J.F.M.)
15. What would you consider to be the specific functions of the university with due regard to our needs, expectations and cherished ambitions? (V.S.J.)
16. How would you differentiate and relate
 - (a) the functions of the schools and universities in our country?
 - (b) What are the most effective ways of bridging the passage from the school to the university having due regard to the different functions of the various stages of education? (V.S.J.)

17. Having regard on the one hand to the importance of research particularly in scientific and technological subjects for national economy and, on the other, to the teaching functions of the institutions concerned, what measures are called for creating a satisfactory balance between teaching and research? (V.S.J.)
18. What remedies would you suggest for reducing wastage and stagnation at the undergraduate level? (V.S.J.)
19. What remedies would you suggest to raise the level of instruction, academic life and administrative efficiency in Government and other colleges, affiliated to the university? (V.S.J.)
20. What new types of institutions for higher education would you recommend for creation and to what purpose? (V.S.J.)
21. In what lines and in what manner would you advise promotion of higher education among women? (V.S.J.)
22. What ways would you suggest for re-education and re-training of older people, whether they have or have not enjoyed higher education previously? (V.S.J.)
23. Would you suggest
 - (a) that recruits for the staff for higher education should be given specific training? If so, what should be the nature of training given to them?
 - (b) that the staff in the institutions for higher education should be periodically re-educated and retrained in order to enable them to keep pace with advancement of knowledge? If so, in what manner such education should be organised? (V.S.J.)
24. Having regard to the state of affairs in Government aided and unaided schools, in what ways can control administration and supervision be made effective in order to secure educational ends? (V.S.J.)
25. Would you recommend the need of an independent high-powered inspectorate responsible to an autonomous statutory Education Commission like the U.G.C.? (V.S.J.)
26. What is the responsibility of universities and other educational institutions in adult education? (V.S.J.)
27. What programmes would enable universities and other educational institutions to be of service to the Community? (V.S.J.)
28. How to divert students soon after the High School stage to various professions and governmental jobs so as to ensure better manpower planning and to have in the universities those full-time students who are primarily interested in intellectual and cultural pursuits? (M.V.M.)
29. How to provide for part-time education, correspondence courses, etc., to enable part-time or full-time employed people to secure benefits of higher education? (M.V.M.)
30. Should post-graduate education and research be the primary responsibility of the Central Government? (M.V.M.)

31. Is it desirable to develop an educational authority which would confer the first university degree (and not post-graduate and research degrees)? Should such an authority cater for only one institution or cover a group of institutions? (M.V.M.)
32. How to promote advanced research institutions in different academic disciplines? Should these be outside the universities, or special institutes within the universities, or just as extensions of University Departments? (M.V.M.)
33. What would be the most desirable administrative and academic set-up in a University? (M.V.M.)
34. How to bring about Inter-University Coordination - academic and financial - in each State? What role can U.G.C. play in this connection? (M.V.M.)
35. What would be most appropriate methods of recruitment and post-entry 'orientation' for University and College teachers? How to ensure keeping up the efficiency of these teachers throughout their teaching career? (M.V.M.)
36. What are the factors which have resulted in the upsurge of indiscipline amongst students and what are the short-range and long-range measures which should be taken to improve the situation? (K.G.S.)
37. How can the spirit of research be encouraged and its standards improved in Universities? (K.G.S.)
38. What should be the nature of relationship between the University and the various communities in the midst of which it has to function - the local, the regional, the national and the international? How can it contribute to the quality of leadership needed in a democratic society and to developing vital forms of social service? (K.G.S.)

IV. STRUCTURE, CURRICULUM, EVALUATION
AND TEACHING METHODS

1. The Curriculum:

- (a) The language problem:
 - (i) the number of languages to be studied at different levels in view of the needs and pupils' mental capacity,
 - (ii) the objectives in studying each language and the expected standard of attainment in each,
 - (iii) the stage at which each language is to be introduced and the period for which it is to be studied,
 - (iv) the methods of teaching and learning languages,
 - (v) how to secure enrichment of the curriculum as regards content through the study of the different languages,
 - (vi) the medium of instruction at different levels.
- (b) Subject-areas, study-plans and activities during the total period of education in the light of the objectives and the pupil's mental development?
- (c) The content and requirements of a good general education. The problem of
 - (i) differentiation (ii) diversification and (iii) specialisation in the curricula to suit the needs of different levels of education - the stages, at which these should be introduced.
- (d) Vocational education - stages at which it is to be introduced and the method by which it is to be done.
- (e) The place of literary (humanistic), scientific and technological studies in the curriculum at different levels.
- (f) Revision of the curriculum and building in a machinery for constant revision of the curriculum with a view to:
 - (i) Upgrading or raising the standard by removing unnecessary overlapping and dead and inert matter from the curriculum, by deepening knowledge and content, by relating it to pupils' experience and activities, by making the matter upto date.

- (ii) Prescribing of the curriculum in a more flexible manner so as to give the teacher initiative and academic freedom.
- (iii) Making the curriculum more significant as being related to life and to individual, social and national needs. (S.P.)

2. Evaluation and Examinations:

- (a) The defects in the present system of examinations,
 - (b) the function of examinations,
 - (c) at what stages of the total period of education should there be public or external examinations?
 - (d) The place of internal assessment in external examinations.
 - (e) What examination reform is necessary to ensure that examinations stimulate good teaching and effective learning instead of having a crippling effect on them? The nature of questions - the form of the examination.
 - (f) Evaluation of the student's personality as a whole - the cumulative record. (S.P.)
3. What is the structure of educational system which will be most suited to answer our national needs and aspirations? (V.S.J.)
4. What principles should determine the curriculum and educational programmes for different stages of education? (V.S.J.)
5. What should be the set-up of the educational system for the future and how should its different stages be intelligently co-ordinated so that, on the one hand, they can serve the needs of students for whom they represent the terminal stage of their formal education as well as those who intend to proceed further? (K.G.S.)
6. In the field of curricular reform, issues pertaining to languages teaching, media of instruction, stream-lining of contents and encouraging inter-disciplinary approaches at appropriate levels are of special importance. (K.G.S.)

7. In the field of methods, the encouragement of activity in learning, of the use of the library, of tutorials and seminars as both supplementing and partly supplanting formal lectures, of audio-visual aids deserves special attention. (K.G.S.)
8. An assessment of the present system of examination and evaluation at all stages, both with reference to its impact on curricula, methods of teaching and students' psychology and its validity and reliability for its own avowed purposes. How can this system be made more reliable as well as more useful educationally?
9. Planning developments in Higher, Secondary and Primary Education from the point of view of the (i) needs and (ii) resources of the country - an integrated approach - meeting man-power requirements at different levels in a developing country, within available resources - Fixing priorities for educational programmes. (S.P.)
10. Co-ordination of general, vocational, technical and professional education at all levels - Education as one field of national life. (S.P.)

V. TEACHERS

A. Teacher Education

1. A plan for expanding facilities for teacher-training to meet the need for trained teachers in the expanding programme of education - training backlog of untrained teachers;
2. The defects in the existing system of training teachers and how to remove them;
3. How to make teacher-training institutions more effective and progressive in their working so that they can educate teachers for their responsibilities;
4. The curriculum and the programme for teacher-training - appropriate training for the teaching of new subjects and for modern methods in the teaching of all subjects, particularly Science, Social Studies and languages - making provision for a deeper study of the subjects;
5. Opportunities for teachers for higher academic studies and upgrading their qualifications, with cooperation from the Universities;
6. Attracting men and women of ability as teacher-educators - conditions of service - opportunities for study of Education as a Discipline - professional preparation of teacher-educators;
7. Professional preparation of educational administrators;
8. Continuing in-service education for teachers, teacher-educators and educational administrators;
9. Post-graduate work in education;
10. Planning systematic educational research (J.P.).

B. Teacher Status

11. Conditions of service and conditions of work;
12. Procedures for selection and appointment of teachers for all types of schools;
13. Qualifications of teachers for different levels;
14. Salary scales of teachers to be considered in the light of (i) their qualifications, (ii) their responsibilities and their contribution to national life, (iii) their needs in terms of the cost of living;

15. Provision of retirement benefits, facilities for the education of their children, housing, specially in case of transfer;
16. Class size and work load for effective teaching;
17. Scope for initiative and freedom in academic and other work;
18. Setting up statutory bodies at State and Central levels for Teacher Education and Welfare - National and State Councils - providing representation to Training Colleges, Teachers' Organisations, Universities, State Departments of Education and Ministry of Education;
19. The role and functions of Teachers and Teachers' Organisations in the development of education in all its aspects. (S.P.)

C. Climate of public opinion regarding education

20. How can a deeper understanding and support of the true purposes of education be secured?
21. How can public opinion be led to accept the fact that improvements in education will require a greater proportion of the national income?
22. How can recognition of the necessity of according the teacher full professional status be developed? (S.P.)
23. How can we improve the quality of recruitment, the educational and professional equipment and the in-service education of teachers at all levels? How can a sense of casteless solidarity be cultivated amongst all grades of teachers? (K.G.S.)

VI. Standards and Development of Talent

1. An assessment of the present quality of education at all levels, the reasons for this state of affairs and the measures which can be adopted for its progressive improvement. (K.G.S.)
2. What are the problems involved in the discovery of talent and its full development both in the interest of the individual and the society? Is it desirable that, while we endeavour to raise the standards of all educational institutions in due course, we build up selected institutions and/or establish special institutions, where more effective and stimulating educational provision will be made for students of special merit and promise? (K.G.S.)
3. What are the ways in which we can maximize resources, reduce all forms of wastage - not only of money but of time, energy, existing provisions of equipment and personnel (which are not fully used) - and thus make the best and most economic use of whatever facilities are at our disposal for education? (K.G.S.)
4. What action should be taken to increase 'real' facilities per pupil in terms of teachers, library books, laboratories, hostels, playgrounds, etc., in our educational institutions? (M.V.M.)
5. What action should be taken by Central and State Governments to promote at least a limited number of high quality institutions at different levels of post-primary education? (M.V.M.)
6. How best can wastage and stagnation at different levels be relieved? (V.S.J.)
7. How can proper quality of education be ensured at different levels? (V.S.J.)
8. What steps could be taken to prepare suitable reading material - books and journals - in Hindi and regional languages within a specified period of time? What would be the financial implications of this project? (M.V.M.)
9. How to achieve a synthesis between quantity (expansion) and quality (high standards) in education. Quality in quantity - how quantitative development can bring about an improvement in quality, by providing a stimulus? (S.P.)

VII. Adult Education

1. What is the function of adult education in a developing society? (V.S.J.)
2. What are the most effective and suitably varied patterns of continuation and adult education that can be recommended with two definite purposes in view:
 - (i) to provide openings for those who have not been able to receive full time education upto the level that they may desire; and
 - (ii) to afford facilities for those who may want to improve their qualifications or their technical efficiency after they have entered upon their careers. (K.G.S.)
3. In what ways can existing efforts to reduce and eventually eliminate adult literacy be improved? (J.F.M.)
4. In what ways can facilities be improved to permit adults and youths to obtain educational qualifications or improve their training and knowledge? (J.F.M.)
5. What further special efforts and facilities are needed for the education of girls and women? (J.F.M.)
6. What should be the relative roles of Governmental and voluntary agencies? What should be the role of employers, trade unions, professional organisations? (J.F.M.)
7. What programmes should cultural agencies such as libraries, museums, etc. develop? (J.F.M.)
8. What programmes should our schools, universities and colleges develop to assist in adult education? (J.F.M.)
9. How best can the mass media of radio, film and the press be mobilized to assist in adult education? (J.F.M.)

VIII. MAN-POWER

1. Consider the quality of the personnel available for education in different fields and the conditions in which they have to work.
 - (a) to what extent and how is it possible to organise training and recruitment of the right quality of educational personnel at different levels for different types of work;
 - (b) to what extent and through what programmes the quality of the personnel employed at present be improved; and

- (c) what measures are essential to keeping teachers abreast with their developments in their subjects and teaching methods?
- (d) how can the skilled manpower needed for the country's economic development be trained?
- (e) how can education train leadership in various fields of national life? (V.S.J.)

(Please see next page)

IX. Technical, Vocational and Professional Education:

1. At what stages in school education should technical and vocational education begin and what forms should it take? How can diversification of school education best reflect the interests and needs of pupils and society? (J.F.M.)
2. How can some technical or manual skills be developed in every Indian child? (J.F.M.)
3. In what ways should the present polytechnic education be modified? (J.F.M.)
4. What should be the curriculum content and type of training given in the education of engineers? (J.F.M.)
5. In what ways can existing programmes and facilities for evening classes and home study be improved? (J.F.M.)
6. What should be the form, scope and content of courses for training in nursing, home science, commerce? (J.F.M.)
7. In what ways can the existing facilities and programmes for industrial training of technicians and skilled workers be improved through polytechnics, technical institutes, etc? (J.F.M.)
8. In what ways can the existing programmes and facilities for training agriculture at all levels be improved? (J.F.M.)
9. In what ways can existing programmes for training in commerce, public administration, law be improved? (J.F.M.)
10. What should be the role of private business and industry in providing and improving facilities for vocational, technical and professional education?(J.F.M.)

X. Educational Administration

1. What measures would you suggest to free education from political and other pressures? (V.S.J.)
2. What can be done to improve the existing machinery for the preparation and implementation of educational plans and reforms? (J.F.M.)
3. What should be the role of the Government of India in educational development and administration? (J.F.M.)
4. What should be the role of State authorities, local bodies and Panchayati Raj institutions in educational development and administration? (J.F.M.)
5. What should be the role of voluntary organisations in educational administration and what changes, if any, are needed in the present grant-in-aid policies? (J.F.M.)
6. What can be done to enable Education Departments in the States and Union Territories to discharge efficiently the responsibilities involved in educational expansion and reform? (J.F.M.)
7. What programme of action is required to improve the selection, recruitment, training, remuneration and conditions of service of the staff of these Education Departments? (J.F.M.)
8. Educational administration is weak in efficiency and imagination, strong in bureaucratic outlook which vitiates the working atmosphere. What are the measures that need to be adopted to tone it up and make it more flexible and humanized at all stages? (K.G.S.)
9. What would be the most helpful relationship between the Central and State Governments and local bodies in the organisation of education - eliminating friction, encouraging cooperation and making all parts of the machinery feel that they are engaged in a joint enterprise? (K.G.S.)

10. The functions of the Centre, the State and various local authorities in education at all levels. (S.P.)
11. The role of private enterprise in education. (S.P.)
12. Should education be a State, Concurrent or Central subject as regards (i) general policies, (ii) administration and control at different levels? (S.P.)
13. How can the authoritarian control in educational administration be reduced to give the teacher greater scope for initiative and responsibility? (S.P.)
14. Having regard to the experience of implementation of Radhakrishnan Commission and Mudaliar Commission Reports and reports of other postwar Education Committee, what conditions are essential to proper consideration and implementation of the recommendations of this Commission?(V.S.J.)
15. Having regard to the limited financial resources available, is the present constitutional position - responsibility of the States for Education - conducive to their maximum effective utilisation? (V.S.J.)
16. Has the existing administrative system proved its competence to deal effectively with problems of education? Where does it ail? What are remedies? (V.S.J.)

(Suggested by Shri P.N. Kirpal)

17. Whether all education should be under one umbrella or whether the existing system of dividing education between different Ministries or Departments should continue, with or without modifications.
18. The role of Government of India in education: Whether education should be in the State List or in the Concurrent List as is sometimes proposed; whether higher education should be in the Concurrent List as recommended by the Sapru Committee.
19. The role of local bodies, i.e. municipalities in urban areas and panchayati raj institutions in rural areas in educational administration.

(pto)

20. The role of voluntary organisations in education, with special reference to the administrative problems of grant-in-aid.
21. The existing machinery for the preparation and implementation of educational plans and the reforms needed therein; the organisation of the Education Departments as it was on the eve of the attainment of independence; the developments that have taken place in the set-up of the Education Departments in the last 17 years; and the measures that are needed to re-organise them in future to meet effectively the problems of expansion and qualitative improvement which will have to be faced in the next three Plans.
22. The selection, recruitment, training, remuneration and conditions of service of the personnel of the Education Departments.
23. The desirability of organizing an Indian Educational Service and the form which such a Service should take.
24. The reform of the administrative machinery for conducting Public Examinations, with special reference to the composition of Examination Boards, their powers and responsibilities and their methods of work.
25. The manner in which an adequate machinery for evaluation of educational programmes can be created and built in, in the Ministry of Education at the Centre and the Education Departments in the States and Union Territories.
26. The main weaknesses and bottlenecks that are now experienced in the working of Education Departments and the steps needed to remove them.
27. The separation of supervision from administration - its advantages and disadvantages; the manner in which inspection of educational institutions could best be organised.
28. Administrative problems that arise out of pressures of different types which impinge on educational administration and the manner in which these could be satisfactorily solved.

XI. EDUCATIONAL FINANCE

1. If education is to be regarded also as an investment in human resources directly contributing to social and economic growth, what would be the optimum per centage of national income or budget to be devoted to education over the next fifteen years? (J.F.M.)
2. Apart from current central, state and local revenues, how can additional funds for educational growth be generated and from what sources? (J.F.M.)
3. What should be the place of school fees in financing current educational expenditure. (J.F.M.)
4. What should be the relative per centages of educational expenditure devoted to the different levels (primary to post-graduate) and forms (school and university, adult education, technical and professional) of the education system? (J.F.M.)
5. How much extra resources - public and private - are needed to meet the requirements of necessary educational development till 1981? What should be the financial responsibility of Central and State Governments to raise these resources? (M.V.M.)
6. What methods could be employed to raise extra resources for education -

(i) increased fees from students, (ii) levying an educational cess in rural and urban areas, (iii) diverting a much larger proportion of governmental revenues to education; (iv) securing foreign assistance? (M.V.M.)
7. How can Government and public opinion be educated to realize, with startling vividness, the crucial role of education in development and increase the resources allotted to education? (K.G.S.)
8. How can non-official resources be tapped more fully and the local community be made more committed to local institutions, both psychologically and materially? (K.G.S.)

XII. STRATEGY OF DEVELOPMENT

1. After the Commission has answered questions of the order "what changes are needed and how much will they cost?", a second series of questions arise of the following nature:-
 - (a) What priorities are to be given to the recommended changes?
 - (b) What should be the phasing and timing of the changes recommended?
 - (c) What agencies will be responsible for the implementation of the proposed changes? Are any new agencies needed?
 - (d) What would be the relative roles of the Central and State Governments in implementing these changes?
 - (e) What elements of education now controlled by other Ministries should be transferred to Ministry of Education? (J.F.M.)

EDUCATION COMMISSION
GOVERNMENT OF INDIA

Subject:- Questions regarding Agricultural Education

The following questions on Agricultural Education have been suggested by Dr. B. P. Pal:

1. Would you care to comment on the position of agricultural education in this country? What would you say are the satisfactory features of the present system, and what are its defects? Would you please differentiate, in giving your answer, agricultural education at the school level, the under-graduate level and the post-graduate level?
2. It has been suggested that, in view of the fact that such a large proportion of the population is dependent directly or indirectly on agriculture, even students not taking up an agricultural course should be afforded some general insight into the problems of agriculture in our country so that in pursuing their avocations whatever these may be they will be able to deal with matters in a proper perspective. Do you agree with this view? If so, can you suggest in what ways it might be practicable to introduce into general education some basic elements of agriculture with special reference to this country?
3. What is your opinion about the agricultural graduates produced by the agricultural colleges in India? If you are not satisfied with the training they have undergone, can you state as clearly as possible what are the directions in which improvement is necessary, and what are the steps which should be taken to accomplish this?
4. What is your opinion about agricultural teachers (i) at the school level, (ii) the under-graduate level, and (iii) the post-graduate level? In what ways can improvement be affected?
5. Do you think the idea of setting up Agricultural Universities is a good one? Will you please give any comments regarding such Universities? If you think they are useful, what is the number we should have in this country.
6. Do you think farmers should be given some kind of training? If so, of what kind, and what would be the facilities required?

J. P. Naik
Member-Secretary.

P. S. to Chairman
All Members
All Officers of the Commission.