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**FOURTH MEETING**  
of the  
**EDUCATION COMMISSION**

**Minutes & Agenda**  
**Papers**

(9—11 December, 1964)



**EDUCATION COMMISSION**  
GOVERNMENT OF INDIA  
UNIVERSITY GRANTS COMMISSION BUILDING  
NEW DELHI-1

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The Education Commission  
Minutes & AGENDA  
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EDUCATION COMMISSION  
GOVERNMENT OF INDIA  
University Grants Commission Building  
NEW DELHI-1.

Fourth Meeting of the Education Commission  
held at New Delhi on 9th, 10th and 11th  
December, 1964.

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CONFIDENTIAL

No. EC/MIN/4

MINUTES OF THE FOURTH MEETING OF THE  
EDUCATION COMMISSION HELD AT NEW DELHI  
ON 9TH, 10TH AND 11TH DECEMBER, 1964.

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EDUCATION COMMISSION  
GOVERNMENT OF INDIA  
NEW DELHI

CONFIDENTIAL

No. EC/MIN/4

Minutes of the Fourth meeting of the Education Commission held on 9th, 10th and 11th December, 1964 in the Conference Room of the University Grants Commission, New Delhi.

FIRST SESSION (9th December, 1964: 11 A.M. to 1 P.M.)

Present:

1. Dr. D.S. Kothari Chairman

2. Shri A.R. Dawood

3. Dr. V.S. Jha

4. Dr. B.P. Pal

5. Miss S. Panandikar

6. Dr. K.G. Saiyidain

7. Dr. T. Sen

8. Shri J.P. Naik Member-Secretary

Shri P.N. Kirpal, Prof. M.V. Mathur and Shri R.A. Gopaldaswamy could not attend as they were out of station.

The Associate Secretary of the Commission and its officers, and Shri P.L. Joshi, Secretary, University Grants Commission, were also present by special invitation. The following decisions were taken:-

1. Minutes: The minutes of the third meeting of the Commission held on 11th, 12th and 13th November, 1964, were confirmed.

2. Interviews with important officials and non-officials: It was decided that the Commission should start interviewing important officials and non-officials from January 1965. The Member-Secretary was requested to prepare a programme for this purpose.

3. Problems of Elementary Education: The three papers prepared on the subject by the Member-Secretary, namely, (a) birthrate vis-avis the pupil-teacher ratio and teachers' salaries, (b) problems of elementary education, and (c) a perspective plan for the development of elementary education in India (1965-1981)

were considered and the following tentative decisions were taken:-

(1) The best way to ensure that children would come to school and stay therein for the prescribed period is to make the parents literate. A movement for the liquidation of mass adult illiteracy should, therefore, be organised side by side with a programme for expanding elementary education. This combination would achieve quicker progress and reduce wastage.

(2) It would be desirable to fulfil the directive of Article 45 of the Constitution by 1981 at the latest. Implications of this from all points of view should be worked out. As this problem will impinge very heavily on the six backward States their needs in this regard (inclusive of special Central assistance) should be highlighted in the study.

(3) In so far as the age-group 6-11 is concerned, almost universal enrolment would be reached in all parts of the country by the end of the Fifth Plan. What is needed here is a (a) concentration on the enrolment of girls and of children from the weaker sections of the community such as the scheduled tribes, landless agricultural labourers, etc. and (b) greater attention to the development of primary education in backward areas. Intensive efforts would also have to be made to reduce wastage which is very high at present, particularly in Class I. The attempt should be to ensure that every child in the country gets at least 4-5 years of education before the end of the Fifth Plan.

(4) Owing to overall financial difficulties, an expansion of primary education may not be possible unless a larger pupil-teacher ratio is adopted. From this point of view, it would be desirable to adopt the double-shift system, at least in Classes I and II. This problem generally meets with very stiff resistance. The Commission should, therefore, discuss this problem specifically and in detail with State

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Governments and others concerned in its tours.

(5) In the age-group 11-14, expansion of elementary education has been slow, due mainly to two reasons:

- (a) the large prevalence of wastage which results in only a small number of students reaching the end of the primary stage; and
- (b) economic conditions which compel children to work at home and prevent them from receiving whole-time education (which is the only instruction that is offered at present)

It was, therefore, felt that it would be desirable to approach this problem in a big way by providing part-time instruction. Education should be made compulsory for the age-group 11-14; full-time education should be provided for all children who can attend on such basis and part-time education for all those who cannot do so. This will effectively stop additions being made to the ranks of illiterates.

(6) The quality of elementary education is very important; and intensive effort should be made to improve the status, remuneration, general education and professional training (pre-service and in-service) of all elementary teachers.

(7) It may be desirable, as a matter of strategy, to concentrate on the intensive improvement of middle schools during the next two plans. This will throw up good students and, if it is combined with a programme of expanding and improving higher education which throws down good teachers, a pincer movement for the qualitative improvement of education would have been established.

(8) The problem of administration of elementary education, and especially of the association of local bodies with it, is of very great importance. The position in this regard varies from State to State. A careful study of the present situation should be made by the Task Force on Educational Administration.



Our attempt should be to evolve a satisfactory solution which would combine advantages of local association with adequate security and safeguards for elementary teachers. This would be one of the important problems to be discussed with the State Governments.

It was finally decided that a small brochure of about ten pages should be prepared on this problem as a basis of discussion with the State Governments. It should be discussed in the next meeting of the Commission.

(The portion of the above minutes relating to Administration and special assistance to backward States was discussed in the final session held on the 11th instant. But it has been included here for convenience of reference).

4. Sir Herbert Read: It was decided that the proposal to appoint Sir Herbert Read as a Consultant to the Commission should be kept pending. In the meanwhile, Dr. V.S. Jha was requested to get in touch with Sir Herbert Read and to obtain his advice through correspondence.

5. The following papers which had been included in the agenda for the information of the members were recorded :-

- (1) Quality of Teachers - by Dr. V.S. Jha.
- (2) National System of Education for India (IV-Teachers) - by Shri J.P. Naik.
- (3) Enrolment Policy in Indian Education - by Shri J.P. Naik.
- (4) Pattern of Central Assistance for Educational Development in the States - by Shri J.P. Naik.

SECOND AND THIRD SESSIONS

(10th December, 1964: 10.30 A.M. to 1 P.M. and 2.45 PM to 5 PM)

Present:

Dr. D.S. Kothari	.....	Chairman
Shri A.R. Dawood		
Dr. V.S. Jha		
Shri P.N. Kirpal		
Prof. M.V. Mathur		
Dr. B.P. Pal		
Miss S. Panandikar		
Dr. K.G. Saiyidain		
Dr. T. Sen		
Shri J.F. Naik	.....	Member-Secretary

Shri R.A. Gopalaswami could not attend as he was out of station. The Associate Secretary of the Commission, its officers and Shri K.L. Joshi were also present by special invitation.

7. The Language Problem in India : The main topic taken up for consideration in both these sessions was the language problem in India. In the beginning, the Member-Secretary briefly described the papers which had been prepared and circulated to the Commission for purposes of this discussion. Then every member of the Commission expressed his views. A Note on the main points that emerged in the discussion will be circulated separately.

The discussion could not be completed and it was, therefore, decided to postpone the full consideration of the question to a later meeting.

8. Talk by Dr. Diez-Hochleitner: Dr. Diez-Hochleitner, Head of Unesco Section on the Loan Programme of the World Bank, attended the meeting by special invitation. He first explained, in broad outline, the present programme which the World Bank is sponsoring for financial assistance to educational development in backward countries. Then he gave some broad suggestions regarding the manner in which the development of education could be planned and financed in the developed countries. A note on the discussions with Dr. Diez-Hochleitner will be circulated separately.

FOURTH SESSION

(11th December, 1964: 10.30 AM to 1.30 PM)

The attendance was the same as on the 10th of December with one exception: Shri P.N. Kirpal could not attend as he had to be present in the Parliament.

9. Tour of the Commission: It was decided that the Commission should pay a visit to Maharashtra State from February 1 to February 6 (both days inclusive). The proposal of the Mysore State that the Commission should visit Bangalore from 8th February to 13th February was not agreed to because, as far as possible, there should be no continuous tours. The Member-Secretary was requested to fix up some other dates in consultation with the State Government.

The programme of visits to the other States was also approved.

10. 10. Papers Circulated for Information: The following papers which had been included in the agenda for information of the members were recorded after some discussion:-

- (1) Suggestions relating to national integration by Shri Tarlok Singh.
- (2) Problems for the consideration - a note prepared by the Teachers College, Columbia University Team in India.
- (3) Report of the Seminar on the Means of Improving the Quality of Education in Asia.
- (4) Science and the Universities - Dr. D.S. Kothari Address to the 1963 Session of the Indian Science Congress.
- (5) Training of in-service teachers for higher secondary schools - a scheme operated upon by the University of Madras.
- (6) List of memoranda submitted to the Commission (till 21st November, 1964).
- (7) Inaugural Address by Dr. V.K.R.V. Rao to the Second Personal Contact Programme organised by the Directorate of Correspondence Courses of the University of Delhi.

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- (8) Report on the ways and means of bridging the gap that exists between the education of boys and girls in the primary and secondary schools (All India Women's Conference).
  - (9) A note on the curtailment of holidays in institutions of higher education prepared by Dr. S.P. Gupta.
  - (10) Report on Scientific Research and its development in the country prepared by the National Institute of Sciences of India.
  - (11) A review of the major recommendations of the Secondary Education Commission and the results of their implementation prepared by Shri A.R. Dawood.
  - (12) Statistical data regarding educational progress in the different States of the Indian Union (1961-1962).

11. Appointment of Sir Christopher Cox as a Consultant: The proposal of Dr. V.S. Jha that Sir Christopher Cox should be requested to be a Consultant to the Commission was approved. The meeting then terminated with a vote of thanks to the Chairman.

Fourth Meeting  
of the  
Education Commission.

Selected Agenda Papers.

EDUCATION COMMISSION  
GOVERNMENT OF INDIA

Subject:- Birth-date vis-a-vis the pupil-teacher ratio, and teachers salaries.

The object of this paper is to establish a relationship between the birthrate and the pupil-teacher ratio in elementary schools under a system in which free and compulsory elementary education is provided for all. The essence of the method is to estimate the number of teachers required on the basis of the pupil-teacher ratio and the number of teachers we can afford on the basis of resources available and to equate the two results.

I. No. of teachers required:

- Let  $p$  be the population.
- $b$  be the effective birthrate, i.e., the no. of living children per thousand of population at the age of entry into elementary schools.
- $y$  the duration in years of the elementary school course.
- $x$  be the pupil-teacher ratio.

It is obvious that the total enrolment in class I would be  $\frac{pb}{1000}$ . If there were no stagnation, no wastage and no deaths, and if every child continued in the school till he completed the elementary course, the total enrolment to be provided for would be  $\frac{ypb}{1000}$ . But since some deaths are inevitable, we may take the total enrolments at  $\frac{(y-1)pb}{1000}$ .

Since the pupil-teacher ratio is  $x$ ,

No. of teachers required is  $\frac{(y-1)pb}{1000x}$  ----- (1)

II. No of Teachers we can afford:

Let  $n$  be the national dividend.

$k$  be the proportion of the average salary of the teacher to the national dividend so that the teacher's average salary becomes  $kn$ .

We shall assume that the nation spends 6 per cent of its

income on education and that one-third of it is devoted to elementary education. Hence, the resources for elementary education would be Rs  $\frac{2pn}{100}$ . We would further keep the capital costs very low at 10 per cent (as against the usual 25), so that the funds available for recurring expenditure would be Rs  $\frac{18pn}{1000}$ . We shall still further assume that only 70 per cent of this would be available for teachers salaries, i.e., Rs  $\frac{136pn}{10000}$ . Since the average salary of a teacher is kn,

$$\text{No. of teachers we can afford is } \frac{136p}{10000k} \quad \text{----- (2)}$$

Equating (1) and (2),

$$\frac{(y-1)pb}{1000x} = \frac{136p}{10000k}$$

$$\text{or } x = \frac{5(y-1)bk}{68} \quad \text{----- (3)}$$

This formula establishes the intimate relationship between pupil-teacher ratio, birthrate, duration of the elementary course and teachers' salaries.

The minimum duration of the elementary course has to be eight years. Similarly, the minimum average salary of a teacher should be twice the national dividend and the maximum about four times the national dividend. Under such conditions, the pupil-teacher ratio would vary between 1.02 b and 2.06 b. A very realistic ratio would be obtained for  $k = 3$ , i.e., 1.54 b.

In India, b is at present 30 and k is 2.5. Even if we raise it to 3, the realistic pupil-teacher ratio is 1.54 b or about 46. When b is halved and reduced to 15 (we must do this in 10-15 years and there is no escape from it), we would certainly be able to afford a pupil teacher ratio of 23.

In this context, attention is also invited to the policy enunciated in the annexure.

J.P. Naik  
Member-Secretary

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ANNEXURE I

Some suggestions regarding the practical manner in which a policy for increasing the pupil-teacher ratios can be worked out.

1. Single-Teacher Schools do not Reduce the Pupil-Teacher Ratio: One common misunderstanding has to be clarified in this context. It is often assumed that the opening of single-teacher schools in small villages leads to a fall in the pupil-teacher ratio. This is not quite correct. The following table compares the average pupil-teacher ratio in single-teacher schools with that in all types of primary schools:

Average Pupil-Teacher Ratio in Single-Teacher Schools and All Primary Schools

<u>Year</u>	Average Pupil-Teacher Ratio in	
	<u>Single-Teacher Schools</u>	<u>All Primary Schools</u>
1949-50	37	34
1950-51	37	34
1951-52	37	34
1952-53	35	33
1953-54	35	33
1954-55	35	33
1955-56	35	33
1956-57	36	34
1957-58	36	34
1958-59	39	35
1959-60	38	35

It will be seen that the pupil-teacher ratio in single-teacher schools is consistently above that in all primary schools.

2. Suggestions for increasing the Pupil-Teacher Ratio: There are two ways in which a desired pupil-teacher ratio can be obtained: (1) to increase the size of the average class or (2) to adopt devices like the double-shift system. Some of the possible implications of these two ways for the four different pupil-teacher ratios - 35, 40, 45 and 50 - are set out below.

I. Average Pupil-Teacher Ratio Desired (35):

(i) For this low ratio, it would not be necessary to



adopt the double shift system.

(ii) The class-size may be as follows:-

- 1 teacher for less than 45 children;
  - 2 teachers for more than 45 but less than 90 children;
  - 3 teachers for more than 90 but less than 125 children;
- and so on,

II. Average Pupil-Teacher Ratio Desired (40): Two alternative methods may be considered:-

(i) The double shift system may be adopted in class I only, the number of children in each shift, not exceeding 30 children. In other classes, the same method may be adopted as in I(ii) above.

(ii) Alternatively, the following class-sizes may be adopted:-

- 1 teacher for less than 50 children;
  - 2 teachers for more than 50 but less than 95 children;
  - 3 teachers for more than 95 but less than 140 children;
- and so on.

III. Average Pupil-Teacher Ratio Desired (45): Three alternative methods may be considered.

(i) The double shift system may be adopted in classes I and II, the number of children in each shift not exceeding 30 children. In other classes, the same method may be adopted as in I(ii) above;

(ii) The double shift system may be adopted in Class I only, the number in each shift not exceeding 30 children. In other classes, the same method may be adopted as in II (ii) above;

(iii) Alternatively, the following class-sizes may be adopted:

- 1 teacher for not more than 55 children

2 teachers for more than 55 but less than 110 children;

3 teachers for more than 105 but less than 165 children.

IV. Average Pupil-Teacher Ratio Desired (50): Four methods may be considered:

(i) To adopt the double shift system in Classes I and II, the number of children in each shift being less than 30; in other classes to adopt the same method as in II(ii) above;

(ii) To adopt the double shift system in Classes I and II, the number of children in each shift being less than 40; in other classes, to adopt the same method as in I(ii) above.

(iii) To adopt the double shift system in Class I only, the number in each shift being less than 40; in other classes, to adopt the same method as in III (iii) above;

(iv) To adopt the following class sizes -

1 teacher for less than 60 pupils

2 teachers for more than 60 but less than 120 pupils;

3 teachers for more than 120 but less than 180 pupils;

and so on.

3. Of the various alternatives suggested above, the best appears to be that in which the double shift system in classes I and II is combined with a class-size of not more than 45. In order, however, not to be dogmatic on the subject, the local authorities should have the freedom to adopt any combination which they prefer or which suits the local conditions provided the desired average pupil-teacher ratio is maintained.

4. Opposition to proposals of this type - several other alternatives also can be easily worked out - is of two types: (1) opposition to the idea of adopting the double-shift system; and (2) opposition to the idea of a larger class-size. Let us consider the two objections.

(a) The Double-Shift System: Opposition to the double-shift system comes from almost all quarters.

(1) The teachers oppose it because it introduces inequalities - the teachers having double-shift classes have to work harder - without any additional remuneration.

(2) The parents oppose it on the ground that children learn less. The Madras Scheme introduced by Shri Rajagopalachari had to be dropped primarily because of the resistance of parents in the rural areas.

(3) The educationists oppose it because often the adoption of the shift-system leads to the simplification of the curriculum.

The first of these oppositions can be easily met by giving an allowance to teachers who have to handle the double shift classes. This is, after all, a legitimate demand. The second can be met partly by educating public opinion on right lines but mainly by introducing it in all elementary schools - both urban and rural. The third is the only serious objection that needs examination. The following points deserve consideration in this context:-

(i) All over the world, the time for which children are kept in schools in class I (or sometimes classes I and II) is always less than that for the other classes. It is a mistake to keep young children at school for as long as six hours a day. Three to four hours of instruction is all that they need at this stage.

(ii) Studies have been made in a number of places where the double-shift system has been in operation. It transpires that there is no significant difference in the learning of children who attend for 3 to 4 hours a day and those who spend 5 to 6 hours a day. In fact, if instruction is properly organised, children do not suffer in any way under the double shift system.

(b) Larger Class-size: The opposition to the adoption of a larger class-size is equally strong. The following points deserve to be made in this context:-

(1) The idea that the class-size should be 30, 40 or 50 is merely a tradition. The general principle that it is possible

to give more individual attention to a child as the class becomes smaller is valid. But what is the sanctity of a figure like 30 to 40? Why not 20 or 10? In fact, why not appoint 5 or 6 teachers for every child! The truth of the matter is that the size of the class is not a very material consideration. There are educational methods suitable for small classes as well as for big classes and what is needed in each case is the adoption of an appropriate method.

If proper techniques are adopted, it is possible to obtain better results even with a larger class than is the case when the class-size is small but the techniques unsatisfactory.

(2) The size of the class is not a purely educational issue; it is more a financial issue. When an educational authority has to face a given number of children but commands only limited resources for the appointment of teachers, the size of the class gets determined on administrative and financial grounds, irrespective of the educational theory then prevailing. It is not always possible to make social and financial situations agree with educational theories. On the other hand, it is always preferable to utilise educational theories for devising solutions to problems that arise from inescapable social and economic needs. The question which an educationist should ask is: What methods of teaching should be evolved in order to enable the teacher to teach in a class of a size which appears inevitable in the given situation? The teaching profession in this country has not intellectually accepted the large class as an inescapable necessity and it is not trained academically to handle it in an efficient manner. Yet the average situation in the country is such that six teachers out of ten are called upon to face classes of very big sizes varying from 50 to 100. If we could only accept a large class-size as an economic necessity for the next 10 to 15 years, if we can concentrate on the evolution of teaching methods suitable for large classes, and if we can train our teachers properly in the handling of these methods, the educational standards would materially improve in spite of the size of classes.

ANNEXURE III

Data about the pupil-teacher ratios in Primary and Secondary Schools in a few Asian countries.

Country	Survey year	Primary	Secondary		
			General	Vocational	Teacher-Training
Afghanistan	1961	48	33	13	7
Burma	1960	42	--	--	--
Cambodia	1959	39	32	15	19
Ceylon	1961	35	30	--	40
China, Rep. of	1962	43	26	17	14
India	1960	36	28	15	--
Indonesia	1959	40	28	6	9
Iran	1959	36	22	--	--
Japan	1962	32	30(1) 23(2)	--	--
Korea, Rep. of	1962	60	41(3) 32(4)	26	13
Laos	1958	33(5)	25(5)(6)	--	--
Malaysia: Malaya	1960	28	27	33	21
Singapore	1962	31	27	23	38
Mongolia		--	--	--	--
Nepal	1960	36	33(6)	--	13
Pakistan	1960	39	25	--	--
Philippines	1960	36	24	--	--
Thailand	1960	36	21	11	13
Viet-Nam, Rep. of	1959	53	34	22	12

- (1) Lower Secondary.
- (2) Upper Secondary.
- (3) Middle Schools.
- (4) Academic high and teacher-training schools.
- (5) Public schools only.
- (6) Includes vocational.

ITEM No.4 (A)

EDUCATION COMMISSION  
GOVERNMENT OF INDIA

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Subject: Problems of Elementary Education.

Placed below is a copy of the three Dadabhai Naoroji Lectures delivered by me recently at Bombay on the subject of Elementary Education in India - the Unfinished Business. The main issues raised for discussion in these papers are listed below under six specific categories (two of which are dealt with in each of the three Lectures) - strategy, priority, quantity, quality, administration and finance.

Strategy:

1. It is a mistake to separate the problems of adult education from those of compulsory education. The best way to ensure that all children will come to school and stay therein for all the prescribed period is to make the parents literate. So a movement for the liquidation of mass illiteracy must be organised side by side with the expansion of elementary education.

2. The basic issue is to provide for very large enrolments and also to provide for qualitative improvement, while keeping the costs within the available resources. This should be done in three ways :

(a) by adopting larger classes and evolving suitable techniques to handle them;

(b) by adopting the double shift system in classes I and II; and

(c) by providing a large-scale programme of part-time education in the age-group 9-14 and especially 11-14.

Priority

3. There seems to be no sense of urgency for fulfilling the Constitutional directive. This was to be fulfilled in 1960. At the present rate of advance, we may not fulfil it even in 2000 A.D. The country should, therefore, decide a

definite target date (1981 is recommended) to reach this goal; and what is even more important, to work out a detailed phased programme to reach this goal. Since the conditions vary largely from State to State; the problem will have to be examined in detail and separately for each State within the frame of reference of the policies decided at the all-India level.

quantity

4. The progress to the goal of universal elementary education is done in three stages: (i) universal provision of schools, (ii) universal enrolment; and (iii) universal retention. These stages generally overlap.

(a) We are almost near the first goal, universal provision of schools. It is, however, necessary to revise the educational survey of 1957 as on 31st March, 1965, and to devise a programme of establishing new schools which will definitely enable the country to reach the goal by the end of the Fourth Plan.

(b) The second stage is to strive for universal enrolment. For this purpose, we should make an intensive effort to enrol children of the age-group 6-7 (with a few exceptions for those in the age-group 5-6 or 7-8) in class I. This will make the class homogeneous and improve efficiency. Given the necessary effort, it ought to be possible to reach this goal also by the end of the fourth Plan.

(c) The third stage is to strive for universal retention; that is to say, to see that every child that is enrolled in class I progresses annually from class to class and that he is kept in continuous attendance until he completes the elementary course or reaches the prescribed age. This implies a determined and successful effort to eliminate stagnation and wastage. This is the most difficult part of the programme and its implementation will have to be spread over the next

three Plans. It is also impossible to implement this programme without adopting a system of part-time instruction for children in the age-group 9-14 and especially for those in the age-group 11-14. Another important measure for the success of this programme is to improve the quality of instruction and to raise thereby the 'attracting and holding power' of the schools.

Quality

5. The qualitative improvement of elementary education is of even far greater importance than quantitative expansion.

6. The history of elementary education in the world shows that in the first stage of the programme of providing free and compulsory education, expansion is emphasised and the improvement of quality is regarded as second. But as soon as this stage is coming to a close- and that happens when about 60-75% of the children are enrolled in schools - the emphasis is shifted to quality. In the third stage when universal enrolment is reached, the emphasis is almost exclusively on the improvement of standards. In India the first stage of this programme will be over by the end of the third five-year Plan and it was therefore natural that expansion should have been emphasised in the first three Plans in preference to qualitative improvement. The second stage of the programme will be covered by the next three Plans during which the emphasis will have to be shifted to quality. This shift will begin with the fourth Plan and will have to be intensified in the fifth and sixth Plans. The third stage of the programme would begin with the seventh Plan (as the target of universal enrolment is expected to be reached by 1980-81) and thereafter the emphasis would be almost exclusively on improvement of standards.

7. It is necessary to adopt a definite strategy for the improvement of standards in elementary education. Under this



strategy, the greatest emphasis will have to be placed, in the fourth and the fifth Plans, on improving standards of the middle school stage where the problem is still manageable. This will enable us to throw up good students and this improvement would be carried on to secondary and ultimately to higher education. If this programme of improvement of the middle school stage (which throws up good students) is combined simultaneously with a programme of expanding and improving the postgraduate stage (which can throw down good teachers), a pincer movement for the qualitative improvement of education will be established and will yield best results in the shortest possible time.

8. The key to the improvement of standards is the teacher. The utmost emphasis would therefore have to be placed on programmes of improving the remuneration, general education and professional training (both pre-service and in-service) of elementary teachers.

9. Side by side with this, it is also essential to provide ancillary services such as free supply of textbooks to all children and, to the extent possible, provision of school meals, school uniforms and school health services.

10. The supervision of elementary schools will also have to be improved and a large scale programme of educational research would have to be organised.

10A. The system of basic education will have to be modified and adopted as a general pattern at the elementary stage.

#### Administration

11. The most important issue in the administration of elementary education relates to the role of local bodies in education. This is the most crucial issue because the entire success of the programme depends on it. In this context, the following points may be considered :

(a) The best system which we can adopt in India is the French system under which the teachers are to be regarded as the employees of the State Government and the Local Bodies are

associated at the village panchayat level only and placed in charge of all non-teacher costs for which they would be given a suitable grant-in-aid.

(b) If the Local Bodies are to be associated with the administration of elementary education, it has to be decided whether this association should be at the village panchayat level or at the block level or at the district level. The considered recommendation is that there should be a close association at the village panchayat level and matters relating to teachers, planning etc. should be associated at the district level. The association of the Local Bodies at the block level has been an unfortunate experiment which will have to be re-considered.

(c) The role of the Central Government in the development of elementary education will also have to be defined. This is mainly to provide financial assistance and to secure equalisation of educational opportunities at the State level by giving special assistance to the backward States. The details of this programme would have to be spelt out.

#### Finance

12. The problems of financing elementary education are the most important. From this point of view, the following suggestions need examination :

(a) We may assume that the national dividend will be doubled in a period of 20 years (1961-81) at constant prices; that is to say, it will increase from about Rs.363 in 1960-61 to about Rs.750 in 1980-81.

(b) We may further assume that 6% of the national income will be spent on education as a whole, as against 2.3% in 1960-61. This is the maximum that could be expected.

(c) The Kher Committee recommended that 50% of the total resources available to education should be assigned for elementary education. This is not a feasible proposition,

especially if adequate resources are to be found for secondary and higher education on the proper development of which the core of economic development depends. It is therefore assumed that only one-third of the total resources available would be allocated to elementary education, i.e., 2% of the national income would be devoted to elementary education.

(d) Even on these best of assumptions the total amount available for elementary education in 1980-81 would be about Rs.15 per head of population or Rs.10,500 million. Compared with the expenditure on elementary education in 1960-61 (Rs.1200 million), this implies a very great advance. But it must be remembered that this will permit only an expenditure of Rs.70 per pupil (the total enrolment in 1980-81 would be about 140 millions) and only about Rs.750 million per year for non-recurring expenditure, as against a cost per pupil of about Rs.33 that would be reached at the end of the third Plan and annual non-recurring expenditure of about 21 million.

(e) The following table shows how the expenditure on elementary education may develop in the fourth, fifth and the sixth Plans.

	1965-66	1970-71	1975-76	1980-81
1. Enrolment in classes I-VIII (in million)	63	92	120	140
2. Cost per pupil (Rs.)	33	40	50	70
3. Programmed expenditure on elementary education (in millions of Rs.)				
(a) Recurring	2079	3,680	6,000	9,800
(b) Non-recurring	21	96	300	700
Total	2,100	3,776	6,300	10,500

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	1965-66	1970-71	1975-76	1980-81
4. National Income (in millions of Rs.)	176,000	236,000	373,000	525,000
5. Percentage of National Income spent on elemen- tary education	1.2	1.6	2.0	2.0

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(f) The annual average salary of teachers, the teacher-pupil ratio and the cost per pupil are intimately related to each other. This matter will have to be carefully examined while deciding the pupil-teacher ratio that we have to adopt.

J.P. NAIK  
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ELEMENTARY EDUCATION IN INDIA  
THE UNFINISHED BUSINESS

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DADABHAI NAOROJI MEMORIAL LECTURES

Delivered at the Blavatsky Lodge,

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ELEMENTARY EDUCATION IN INDIA  
The Unfinished Business

LECTURE I

STRATEGY AND PRIORITY

I am very grateful to the Board of Trustees of the Dadabhai Naoroji Memorial Trust for having invited me to deliver these lectures\*. It is an honour which I deeply appreciate and shall try my best to deserve.

The provision of universal elementary education has been a cherished goal of the Indian people for more than eighty years. The demand for this service, obviously stimulated by the passing of Elementary Education Acts in England between 1870 and 1880, was first put forward by a few enlightened Indians before the Indian Education Commission of 1882. The Grand Old Man of India, Dadabhai Naoroji, was one of them. He contrasted the 'British' policy towards elementary education in England (where the first Parliamentary grant of £20,000 for education was sanctioned in 1833, but further expansion was so rapid that, by 1882, compulsory education laws had already been passed, the total enrolment had increased to 4.857 million or 1 in 7 of the population and the total expenditure on elementary education to 4s 3d per head of population) with the 'un-British' policy in India (where the first Government grant for education was sanctioned twenty<sup>years</sup> earlier in 1813 but where further expansion was so slow that, by 1882, the total enrolment in elementary schools had increased only to 1.633 million or 1 in 114 of the population and the total expenditure on education had increased only to 8.71 paise or less than a penny per head of the population. He described it as a 'sad, sad tale' which allowed 'nearly 25

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\* I would like to clarify that the views expressed in these lectures are personal to myself and that they do not represent either the Ministry of Education or the Education Commission.

million children to grow up in ignorance'. But, at this early period, the Commission would not even entertain the concept of universal and compulsory education and all his eloquent pleading was in vain.

The thread was again taken up by another man from Bombay - the late Gopal Krishna Gokhale - who moved, first a Resolution (1910) and then a Bill (1911) in the Central Legislature for the permissive and gradual introduction of compulsory education through the local bodies. But the Resolution had to be withdrawn and the Bill was defeated because the Government of the day felt that the concept of compulsory education was ruled out by 'administrative and financial considerations of decisive weight'. But Indians insisted on thinking differently. Maharaja Syajirao Gaekwar of Baroda, who has been rightly described as a Prince among the educators and an educator among the Princes, boldly introduced the experiment in the Amraeli Mahal of his State in 1893 and in all its areas in 1906; and all the legislatures of the British Indian Provinces passed compulsory elementary education thus came to be accepted in theory and was incorporated in the laws of the land, especially after the transfer of education to Indian control in 1921.

The acceptance of a programme in principle by enacting the necessary legislation is one thing and its practical implementation quite another, especially in a country like ours where the distance between 'theory' and 'practice' has always been very wide. The provision of universal elementary education is the costliest of all social services and its implementation was held up in India by two main difficulties: (1) the first was the large birth-rate and the rapid growth of population which continually increased the size of the problem and made it more difficult; and (2) the second was the extreme poverty of the people and the country which, on the one hand, made it almost impossible for the Government to raise the necessary financial resources to support the



programme and on the other, prevented the bulk of the children, who had to assist their poor families by working at home or outside, from attending the schools on a whole-time basis. The first of these two problems - inordinate population growth - has not yet been tackled in earnest and it is only now that family planning and population control have begun to receive serious attention. But an attempt to resolve the second difficulty - the poverty of the State and the people - was made by two great men. The first was the late Shri R.V. Parulekar who advocated the adoption of the double-shift system, partly to reduce the cost of educating a child, and partly to enable the poor children to work at home and to receive education simultaneously. The second was the idea of basic education put forward by Mahatma Gandhi who introduced the concept of socially productive useful work into education and felt that elementary education, conducted on 'basic' lines, should be self-supporting - a characteristic of the experiment which he described as an 'acid test' of its success. But neither of these had received a fair trial by 1939 when the second World War broke out and put all developmental programmes in cold storage for some time. In 1944, the Central Advisory Board of Education prepared a Plan - known popularly as the Sargent Plan after Sir John Sargent who was then the Educational Commissioner with the Government of India - which accepted the concept that the National System of Education in India must include a provision for the compulsory schooling of eight years for all children (age-group 6-13). As it was not worried on the financial score - it was planning for a period of 40 years during which time it expected the Indian economy to be buoyant - it did not have to accept Parulekar's device of the double-shift which was purely financial in origin and admittedly diluted quality to some extent. It, however, accepted Gandhiji's idea of basic education - both for its qualitative aspects and for its inculcation of the dignity of labour - but without its acid test of self-sufficiency. All that it expected from the teaching of

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education or about 66 per cent of the total educational expenditure of Rs.300 crores, or Rs.7 per head of population (then estimated at 29 crores) at the 1939 prices. The Kher Committee which examined the Sargent Plan from the 'national' point of view, accepted the programme of universal, compulsory and free basic education incorporated in the Plan itself but reduced the time-factor from 40 (1944-84) to 16 years (1944-60). This view was accepted by the framers of the Constitution in 1950 and that is why Article 45 of the Constitution directs that the State shall endeavour to provide free and compulsory education for all children till they reach the age of 14 years within ten years of the date of adoption of the Constitution on 26th January 1950\*.

## II

Elementary education in the post-independence period thus began with a 'good' resolution and it appears to me that, in our way of life, the 'making' of good resolutions is far more important than 'implementing' them. It is not entirely a matter for surprise, therefore, that we have not been able to implement this constitutional directive and to bring all children in the age-group of 6-14 to schools by 1960. The first Five Year Plan (1950-55), conceived soon after the adoption of the Constitution, did give a very high priority to elementary education; but the failure became evident as early as 1956 when the second Five Year Plan was adopted

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\*It will be noticed that the constitutional provision mentions only 'free and compulsory' education and makes no reference to the 'type' of education to be provided - basic or non-basic. Similarly, it mentions only the upper age-limit of compulsory education (14 years) and not its beginning nor the duration of the compulsory school period. This was done purposely to avoid controversies regarding 'basic' education or the age of admission to elementary schools (opinions varied from age 5 to age 7) or making pre-primary education (age 3 to 6) also compulsory.

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which showed that, by 1960, we would only enrol about 61 per cent of the children in the age-group 11-13. The question was, therefore, examined in great detail by the Education Panel of the Planning Commission which met at Poona in 1958. It recommended that the old idea of treating education for the age-group 6-14 as an integrated whole might be given up and we might divide this period of eight years of elementary education into two - primary education of five years (age-group 6-10) and middle school education of three years (age-group 11-13). It further recommended that universal and compulsory education at the primary stage should be provided by the end of the third Plan (1965-66) and similar education at the middle school stage at the end of the fifth Plan (1975-76). This amendment, in itself, implied a considerable watering down of the original targets. But unfortunately, we will not be able to implement even this revised programme. In so far as the age-group 6-10 is concerned, universal education will have been provided, by the end of the third Plan (1965-66) only in the States of Kerala and Madras and in the Union Territory of Delhi; the seven advanced States (Andhra Pradesh, Assam, Gujarat, Maharashtra, Mysore, Punjab and West Bengal) will reach the goal at the end of the fourth Plan (1970-71); and the six backward States (Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh) will reach it only by the end of the fifth Plan (1975-76). In so far as the age-group 11-13 is concerned, Madras, Kerala and Delhi may provide universal and compulsory education by 1975-76; the seven advanced States may do so by 1980-81; and the six backward States by 1985-86 at the earliest! At one time, we all felt that the proposal of the Sargent Plan to provide free and compulsory education for the age-group (6-13) by 1984 was 'anti-national' and 'fantastically slow'.

Today, we have come to a stage when the implementation of even the Sargent Plan will be regarded as a 'progressive, bold and ambitious target'! There is also one more point that I must mention. To me, the tragedy is not so much the failure to implement the directive of Article 45 of the Constitution by 1960. It is a greater tragedy that, even today, we have no official programme to tell us when, if at all, we shall reach this goal - there are some States who want to do it by the ninth Plan (1989-90) and some even by the eleventh Plan (1999-2000)!

The principal question before us, therefore, is this: Why is it that the progress of elementary education <sup>is</sup> so slow and why is it that we are unable to implement the only directive principle of the State policy in education? Obviously, it is on the correctness or otherwise of our ~~answer~~ to this question - on our correct diagnosis of our failure to reach this national goal - that the ultimate solution of the problem will depend. Fortunately, the subject has been often discussed - too often as a matter of fact - and the general causes which impede the progress of elementary education have been diagnosed, more or less accurately. They include: our large birth-rate and consequent explosion of population; the inability of Government to raise the financial resources needed to support this massive programme; the apathy of the illiterate masses to education; the traditional resistances to the education of girls; the existence of backward groups such as scheduled castes and tribes or the nomads; the poverty of the parents which compels them to use the labour of children at home or outside; small and scattered habitations - we have more than 250,000 habitations of less than 100 people each; large forest and inaccessible areas; and the absence of a suitable machinery to enforce compulsory attendance and the immense cost that would be involved in creating it. Taken together, these physical, social, cultural, economic and

administrative handicaps make the problem of providing universal elementary education extremely difficult and costly, if not impossible.

While this general aspect of the problem is widely known, there is another and more important aspect of which very little is known and about which I would like to speak in some detail. I refer here to the six backward States which are lagging so painfully behind - the States of Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. They form the big belt of northern India from west to east - the heart of Aryavarta, if you like. Their total population (1961) is about 45 per cent of the Indian Union; but at the end of the second Plan (1960-61), they contained about 60 per cent of the total non-attending children in the age-group 6-10 in the country as a whole. Unsatisfactory as this situation is, it will be worse still at the end of the third Plan (1965-66) because, during the third Plan itself, the advanced States have made much greater progress than the backward States. According to the present indications, these backward States will not be able to achieve their original targets of enrolment at the primary stage (classes I-V) in the third Five Year Plan; and even if they did, the total number of non-attending children in the age-group 6-10 in these six States will, in 1965-66, be 67.5 per cent of the total non-attending children in the country as a whole as against about 60.1 per cent in 1960-61. Uttar Pradesh (29 per cent) and Bihar (13 per cent) alone would have about 42 per cent of the non-attending children in all the Indian Union! At the end of the fourth Plan (1970-71), most of the advanced States would have provided compulsory education in the age-group 6-10 and more than 98 per cent of the non-attending children in this age-group in the country as a whole would be in these six States only! In the age-group 11-13, the position is even worse - these States are not even able to keep pace with the growth of the population. For instance, the total population of children in the age-group

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11-13 in these six States will rise, during the third Plan, by 2.84 million - from 12.07 million in 1961 to 14.91 million in 1966. But in the same period, the additional enrolment in classes VI-VIII in all the six States would only be 1.37 million. That is to say, the number of non-attending children in the age-group 11-13 in all these States will increase from 10.20 million in 1961 to 11.68 million in 1966\*. The position of the enrolment of girls in this age-group, particularly in rural areas, is almost hopeless. In Uttar Pradesh, for instance, the enrolment of girls in the age-group 11-13 in the rural areas is about one per cent at present and may rise to about two at the end of the third Plan! It is, therefore, evident that, in so far as expansion of elementary education is concerned, the problem is one of the six backward States only. I have no anxiety at all about Kerala, Madras or Delhi - they will roll on to universal education in the age-group 6-13 by 1975-76. I also have no particular anxiety about the seven advanced States. The public awakening in these areas is terrific; the Governments also have become conscious of their responsibilities in this regard and, with a little financial assistance from the Centre, they too will reach the goal a little later - by 1980-81. But in so far as the six backward States are concerned, the problem is extremely acute and difficult; and we may assume it as an axiom that the future of elementary education in India is the future of elementary education in these six States.

Why is it that these six States are so backward in elementary education? There are a number of physical, social, cultural, historical and economic factors. Rajasthan has vast desert areas where the population lives in small and scattered hamlets - a situation which is basically repeated, although in a different context, in the hill areas of Uttar Pradesh, Orissa, Jammu and Kashmir, and Madhya Pradesh. The

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\*For details of statistics referred to here, please refer to Table Nos. I and II at the end.

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traditional resistances to the education of girls are comparatively stronger in these States and it is more difficult to obtain women teachers. They also have large populations of the backward classes - the scheduled tribes are particularly concentrated in Bihar, Orissa, Madhya Pradesh and Rajasthan. By and large, these areas are comparatively less industrialised and less urbanised and generally poorer - Bihar is the poorest State in India. But perhaps, the most important cause is historical - a century of neglect. In 1950-51, all these States started with a severe handicap - the enrolment in classes I-V in them varied from 10 to 36 per cent of the age-group 6-10 and that in classes VI-VIII, from 5 to 12 per cent of the age-group 11-13. In spite of all their efforts in the first three Plans - and these have, by no means, been inconsiderable - they have not yet been able to overcome this handicap. In 1950-51, they were the six least advanced States in elementary education and they will again be so at the end of the third Plan in 1965-66, although the gap between them and the advanced States has been narrowed to some extent.

## III

The simple problem which now faces the country is, therefore, one of approach. If the present approach to the problem is to continue, there is no reason to expect results much different from those that we have obtained in the last three Plans and we shall have to reconcile ourselves to the position that the constitutional directive may be realised somewhere between 1985 and 2000 A.D.! On the other hand, if we are convinced that we cannot afford to wait so long to put across this vital programme, we should have to review the entire situation de novo, and change our very approach to the problem. I strongly hold the view that what is needed is a change of approach - the adoption of a new strategy, unorthodox but effective, and it is this new strategy that I would like

to elaborate in some detail this evening.

The first element in the new strategy is that the programmes of elementary education should be pursued side by side with those of mass education with special reference to liquidation of adult literacy, the development of scientific attitudes in all walks of life and the popularisation of a programme of family planning. We have somehow failed to see the fact that a crash programme of elementary education (and it is precisely this which the Constitution visualised) cannot be put across in an overwhelmingly illiterate society. For instance, so many of the evils of our system of elementary education arise from one single factor, the illiteracy of the parents, e.g., their general apathy to education, resistances to sending girls to schools, lack of interest in the school progress of their children which, in its turn, leads to such deficiencies as absenteeism, stagnation and wastage etc. It would, therefore, be a great asset to the programme of universal education for all children to combine it with that of liquidation of adult illiteracy. But this is just what we have not done. We do not realise that education works under a 'law of expanding demand', that is to say, each educated parent tries to provide better and longer education to his children than what he received himself. In all advanced countries, therefore, compulsory education laws remain only on paper because the very education of parents ensures the attendance of children in schools. Unfortunately, we are working in a vicious circle at present. The masses are illiterate and hence apathetic to education. Their children, therefore, do not attend schools and this, in its turn, swells the ranks of adult illiterates in the next generation. One way to break this vicious circle is to organise mass campaigns to liquidate adult illiteracy which will immediately ensure the success of this programme of universal elementary education.



I would advocate this programme even on financial grounds because the cost of liquidating adult illiteracy would be less in comparison to the vast sums that we now lose, year after year, through wastage and stagnation at the elementary stage.

This strategy - the liquidation of adult illiteracy - would take care of one aspect of the problem - quick enrolment of all children into schools, better attendance and longer retention. But this is not enough. The programme of adult education which I have in view will go much beyond literacy and will also include extension education whose objectives would be two: (1) to educate and motivate the adults to adopt family planning as a significant step for their own happiness and for national prosperity; and (2) to help them to build scientific attitudes in all walks of life. It is obvious that the growth of our national economy will depend very largely on these two crucial programmes. The first programme - family planning - will reduce the load on the educational system very considerably. At the present birth-rate, we shall have to provide for an enrolment of about 20 per cent of the total population (which is a very large population at that) if universal education is to be introduced in the age-group 6-13. If the birth-rate can be halved, the total size of the population would be much smaller and we shall have to provide for only about 12 per cent of this reduced population in elementary schools. In fact, it is possible to show statistically that, if our birth-rate could have been halved, the actual enrolment of children that we had in our elementary schools in 1960-61 would have enabled us to fulfil the directive of the Constitution! The second programme, the building up of scientific attitudes is essential for family planning itself and also for modernisation of agriculture and the development of industries. This will

help us to raise the national dividend and thus provide the financial foundation on which alone a programme of universal and compulsory elementary education can be securely built.

The organisation of mass campaigns of adult education with the objectives of liquidating adult illiteracy, popularising family planning and building up of scientific attitudes is thus the first plank in the new strategy to be adopted. The second is provided by the two proposals of Shri R.V. Parulekar which we have neglected so far to our own cost. The first of these is the adoption of the system of part-time education for those children who are required to work in or for their families. Such a programme would obviously take care of two acute problems which we have to face at present: (1) inability of a large proportion of children in the age-group 9-14 to attend schools on a whole-time basis on account of poverty, and (2) the large wastage that now occurs, because the moment a child grows old enough to earn, he has to be withdrawn from schools which either give whole-time education or none at all. At present, we have only a system of full-time schools where we expect the children to attend for about six hours a day - not any six hours or even the six hours that suit children best, but the six hours we choose on some ad hoc basis. This leads to two evils. Many children who have to do some work at home do not come to the school at all. Others come to school at early ages when they are more a nuisance than a help at home, but are withdrawn as soon as they become old enough to assist, say about 9 or 10 years of age, and this leads to the evil of wastage. A system of part-time instruction would help all such children. But we are too sophisticated to accept it. Consequently, 'better' becomes an enemy of the 'good' and the children of poor parents receive no education at all. We must remember that a system of part-time education has been adopted by every developing country which is eager to provide universal education. In

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China, for instance, 26 million children, out of 86 million who attend schools, do so on a parttime basis. I concede that ultimately we should provide full-time education for all children. But that day is rather distant and in the present conditions of unparalleled poverty, we should take a realistic view of the situation and adopt a carefully designed system of part-time schools which would enable needy children to receive education even when they are working in or for their families. It would also reduce substantially the large wastage that now occurs because researches have shown that about 65 per cent of it is due to economic causes alone.

The second part of Shri Parulekar's proposals is to adopt a larger pupil-teacher ratio by adoption of larger class-sizes or the double-shift system. This will have two advantages: it will reduce the cost per pupil and make the programme financially more feasible and will also enable us to give a better remuneration to the teachers. The development of universal education for children generally takes place in two stages. In the first stage, the number of children to be enrolled is very large and the resources available are limited. In the second stage, the additional enrolments become smaller because most of the children are already at school and the resources available increase because of an improvement in the economic situation. The best strategy in developing a programme of universal education, therefore, is to deliberately adopt a larger pupil-teacher ratio in the first stage - till full enrolment is reached - and then gradually to reduce it as more funds become available. We are unwilling to adopt this strategy and insist on small pupil-teacher ratios right from the start. The result is that costs go up, enrolments get slow and teachers remain low-paid.

We cannot be too grateful to the late Shri R.V. Parulekar for working out the details of this strategy.\* But we have not taken his wise counsel which alone would have made this problem capable of an early solution; and the tragedy of the present situation is that a problem which is already very difficult is made almost impossible of solution, by the adoption of techniques and methods of teaching which can only suit a more advanced stage of economic development.

There is a third element in the new approach that I am advocating, viz., that in the next ten years, we should emphasise the education of children in the age-group 9-13 as much as that of those in the age-group 6-10. In the Patel Memorial Lectures, Dr. Zakir Hussain has pointed out that, if we have inadequate funds, much better results would be obtained by educating the grown up children, say in the age-group 9-13, than those in the age-group 6-10. In the first place, the numbers involved in the older age-groups are smaller. Secondly, the results are better and quicker and the wastage is much less because the children are older. For instance, a child in the 11-13 age-group can be taught, in a part-time school in one or two years (at a cost of about Rs.20 per child per year what a child in the age-group 6-10 takes four or five years to learn on a whole-time basis (at a cost of about Rs.30 per child per year). It would, therefore, be worthwhile to consider the possibility of compelling every child in the age-group 11-13 (or 9-13) who cannot attend schools on a whole-time basis, to attend them at least on a part-time basis, for about 1½ to 2 hours per day and for about three days in a week. To begin with, these part-time schools would be of three types: (1) some will be attended by children who have completed the primary school in the age-group 6-10, who wish to study further but

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\*R.V. Parulekar: Literacy in India, Macmillan & Co., Bombay, 1939.

cannot afford to do so on a whole-time basis; (2) some other will be attended by those children who went to school in the age-group 6-10, did not complete the course but are also not quite beginners; and (3) still others will be attended by those novices who never went to school in the age-group 6-10 or by those who went to school for a while but again lapsed into illiteracy. These schools can be conducted by the existing teachers of elementary schools, in the existing buildings and with existing equipment, if an allowance is paid to them which, incidentally, would be a welcome addition to their salaries in these days of rising prices. The experiment should begin in a big way in the Fourth Plan and by the end of the fifth Plan, our aim should be to enrol all children in the age-group 11-13 who do not already attend schools on a whole-time basis in such part-time instruction. No insuperable financial hurdles need arise because this can be done at about half the cost needed for full-time education. By then, all children of the age-group 6-10 would also have been brought into schools even in the backward States so that it will still be possible to fulfil the constitutional directive by 1975-76 or, at the latest, by 1980-81. As time passes, the third and second of these types of schools will disappear gradually as education in the age-group 6-10 becomes universal and compulsory. But the first type of part-time schools that are meant for children in the age-group 11-13 who have completed the primary school in the age-group 6-10, who desire to study further, but <sup>who</sup> cannot attend schools on a whole-time basis will have to continue for a fairly long time until the general economic condition of the people improves very considerably.

IV

This new strategy will be effective only if it is backed up with adequate funds which can be obtained if a

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higher priority is accorded to elementary education in the next three Plans than that in the first three. At present, we accord a very low priority to elementary education; and, in my opinion, this hinders our progress very considerably. The speeches that we make in favour of elementary education are so good, so frequent and come from so many publications that I will first have to establish that we do not give adequate priority to elementary education. In the British days, our most frequent criticism was that our educational system was like an inverted pyramid, that too little was spent on elementary education (in 1947, the total direct expenditure on elementary education was about 40 per cent of total educational expenditure), and that elementary education should receive at least 50 per cent of the total educational expenditure. We all fondly hoped that the earlier policies would be abandoned in the post-independence period, especially when the programme of universal education for children was signalled out for inclusion in the Constitution itself. But the facts are just the opposite. The Government of India appointed commissions for university and secondary education but not for elementary education; the rate of expansion of secondary and university education is now much faster than that of elementary education so that the educational system has become even more inverted than what it was in 1947; and the total direct expenditure on elementary education is now 35 per cent of the total educational expenditure as against 40 per cent in 1947! It is no wonder that the constitutional directive is not fulfilled. It would have been nothing short of a miracle if we could have fulfilled it with the adoption of these policies.

Why is it that we do not give adequate priority to programmes of elementary education in the post-independence period - a priority which is implicit in all our talk of the pre-independence days and in the Constitution itself?

Briefly, the argument is that elementary education is conducive only to social justice, and not to economic growth which is the top-most priority of the day. I unfortunately belong to the old-fashioned school which regards social justice as of greater importance than economic growth. To me, therefore, the priority of elementary education is implicit even in this argument which seeks to deny it. But I will not press that issue. I will also not argue the historical issue that we must be consistent with all our pre-independence promises, nor the legalistic point that loyalty to the Constitution demands the highest priority to this programme. I will admit, for the sake of argument, that economic growth is that highest and most urgent objective and that the priority to be accorded to any educational programme will be directly proportional to the contribution which it makes to economic growth. I cannot wholly subscribe to this thesis because there are educational programmes which need priority on grounds other than economic, and because man does not live by bread alone. Without pressing this argument, however, and even on the limited basis of simple economic growth, I still claim that programmes of mass education - a combined programme of adult education which will include literacy, family planning and the building up of scientific attitudes and universal education of children taken together - have an over-riding priority, next only to that of technical education and scientific research.

Let me elaborate the point a little further. In my opinion, there are two very important conditions for economic growth. The first is some sort of population control; and the second is the modernisation of the traditional social order. Taking population control first, I feel that a programme of family planning, which is essentially a programme of providing the needed education and motivation, can never be put across if it is built on the solid foundations

of mass education. The final result in population control depends, not on the decisions taken in Delhi or in State Capitals, not even on the financial provisions made in the five year plans, but on what every adult thinks and feels and does this issue. It involves the informed and willing participation of each and every adult - man and woman - who must be made aware, first of the tremendous issues that depend, both for himself and for his country, on the number of children that he may choose to have, and second, of the scientific fact that it is he who can and must decide the number of his children - and not leave it to fate, or God or the sins and merits of previous births. Simultaneously, he must also have the will and the courage to take a right decision suited to his condition and the know-how and the perseverance to implement it, once it is taken. These conditions, which alone can ensure the success of a programme of population control, can only follow a programme of universal mass education with which the programme of universal education for children is integrally related.

The second condition of economic growth - modernisation of the traditional social order - is even more fundamental. This primarily implies, not a modernisation of externals such as the introduction of jet planes, television sets, steel plants or hydel dams, but a modernisation of mind and character. Moreover, it has to be a modernisation, not of a few individuals or even classes, but a modernisation of the society as a whole. In other words, every man and woman has to develop a passionate zeal for this country and all that it stands for - democracy, secularism, tolerance, social and economic justice and equality of educational and employment opportunity for all. He must learn to consider this world and this life significant enough to deserve his zealous attempt to reform it. He must also develop a scientific outlook on life and cultivate the essential productive skills and qualities of cooperation and hard work. He must learn to restrain his consumption in order that



the capital needed for reconstruction may come into being. The modernisation of Indian Society, from which its economic growth will follow as corollary, can, therefore, be achieved only if we can create an organisation which would build up these essential values, attitudes and know-how in every citizen. This again can only be done in a programme of mass education from which the programme of universal elementary education is inseparable.

Why is it, then, that mass education continues to be neglected in the post-independence period? To me, the main socio-psychological explanation of the phenomenon lies in the increasing distance between the masses and the intelligentsia. The intellectuals have no doubt a very important role to play in the modernisation of social order and in securing economic growth. But they will not be able to deliver the goods, unless they are also able to take the masses with them. It is true that India has an ancient and strong intellectual tradition; but unfortunately it has been too self-centered and has lacked a strong communion with the people at large. In the pre-British days, this was due mainly to the fact that the intellectuals belonged to a small caste. During the last 150 years, a new intellectual class has arisen which includes people from almost every strata of society. Towards the end of the nineteenth century, this new class launched a struggle for political power on the ground that it represented the masses of India; and as time passed and the struggle against the British imperialism grew in intensity, its ties with the masses became closer and charged with emotion. With the disappearance of the British power, however, these bonds have become weak again and intelligentsia seems more and more to live and work for itself and become an exploiting

rather than a service group. In my opinion, this is the most dangerous trend in the present situation. The British Government never accepted responsibility for educating the masses. All that it tried to do was to create 'a class of educated Indians' and to leave it to this class to educate their bretheren. In a way, they accomplished their task and left. It is now the sole responsibility of the educated classes in India to provide education to the masses and to improve their living conditions. It is they who are now on trial. Will they regard themselves as the servants of the people and strive their utmost for their education and betterment or will they strive to utilise the available resources, to the extent possible, for programmes which entrench their privileged position still further - this is the question which is to be answered.

To my mind, there is no doubt about the choice. Gandhiji said that he would like 'to wipe every tear from every eye'. The intelligentsia of today, which has inherited and enjoys the fruits of the sacrifices of this great Father of the Nation, has a duty to him and to itself to make this basic role of the Mahatma - to wipe every tear from every eye - as its mission in life and to grapple the unhappy masses closest to its heart. This alone can enthuse the masses to hard work and to sacrifices without which the economic growth of the country cannot be brought about - men are at their best when they get, not only knowledge, but love as well. I may also add that it is only through this loving, well-informed and constant devotion to the well-being of the masses that the intelligentsia can save even itself, because its own future is inextricably linked with that of the masses.

It is my thesis that the low priority accorded to elementary education in the post-independence period is

merely a symptom of a dangerous trend that seems to be growing - the isolation of the intelligentsia from the masses. That is the stark, naked truth; and since it is too hideous to be faced, we try to cover it up under a cloak of learned arguments as to why mass education or elementary education cannot be given priority in a programme essentially oriented to economic growth. It is my contention that this policy will impede even economic growth and ultimately lead to all-round ruination. I, therefore, hold that programmes of mass education, as defined above, have to be given the highest priority and the best possible allocation from the resources available, not only from the point of view of humanity and social justice, but also for quicker economic growth and in the enlightened self-interest of the intelligentsia itself.

I think that we have a lesson to learn from the communist countries in this regard. The dogma that economic factors are primary to all development is essentially a Marxist doctrine. Curiously enough, the communist countries have observed it more in breach than in fulfilment, at least in so far as the educational development is concerned. They have all placed the highest emphasis on changing man, and on the development of mass education programmes. In other words, they have acted on the supposition that an 'educational' take off precedes the 'economic' take off. On the other hand, the so-called free world which vehemently denounces the Marxist doctrine of the primary role of the economic factors, actually acts in exactly the opposite way - places greater emphasis on dams, roads, aeroplanes, factories, and the like and gives a low priority to education as a whole, and particularly to programmes of mass education. For instance, a comparison between Indian and Chinese policies in this sector affords an interesting contrast. The communists came to power in China in 1949 and curiously enough, this is about the time we took the decision to introduce compulsory

education in a period of ten years. It is seen therefrom that, in 1949-50, the position of adult literacy or elementary education was more or less the same in the two countries. But the latest accounts of Chinese education show the tremendous progress they have made in mass education. Large literacy campaigns have been organised; and in spite of the difficulties of the Chinese script - one has to learn about 5,000 symbols to be able to read and understand Chinese literature intelligently - millions of persons pass literacy tests every year and it is now claimed that the percentage of literacy has risen to 70 or that, barring those people who are too old to learn, almost every person has become literate. In India, the percentage of literacy is still 24 and we have done little to liquidate adult illiteracy. In elementary education, China has already been able to enrol 92 per cent of children in the corresponding age-group as against 61 per cent in India. I believe that the communist policies with regard to mass education do have a lesson for all the democracies which they can ignore only at their peril.

It has been often said that Government does not have the financial resources to introduce universal elementary education. I am afraid that this is not correct and the truth probably is what I have stated above - we are not prepared to give adequate priority to elementary education. Let me illustrate. At the end of the third Plan, we would have about 60 million children in elementary schools at a recurring cost of Rs.2,100 million or Rs. 35 per child per year. At the end of the fourth Plan, the total population in the age-group 6-13 would be about 110 million and assuming that the cost per pupil will also rise to Rs.40 per annum in the meanwhile, we shall need about Rs. 4400 millions for this programme in 1970-71. The recurring expenditure on elementary education would thus have to be about doubled in a period of five years. Is this additional amount impossible for the country to raise? MOST CERTAINLY NOT.

One might probably have accepted the argument in 1961. But when we saw, in response to the Chinese aggression, that our defence expenditure rose by about Rs. 1000 million in 1962 and by another Rs 4000 million in 1963, how can we accept this logic? If the country could feel the threat of mass illiteracy as deeply as that of Chinese expansionism - and it is, believe me, a potentially much greater threat - I am quite sure that all this money would be raised, not in five, but even in one year. Poor as we are, the lack of concern for the cause, the sheer lack of will, and not the lack of monetary resources is the real bottleneck.

V

Before I close this evening, may I briefly recapitulate the main points that I have been trying to put forward? I have shown that, in spite of the constitutional provisions and the lip-service paid to mass education in all official quarters, the progress of elementary education has been agonisingly slow in the post-independence period. That this is due, in part at least, to the tremendous difficulties inherent in the problem is not denied. But my contention is that this is mainly due to two other controllable factors. The first is our failure to adopt the right strategy: the development of programmes of mass education (which would include liquidation of adult illiteracy and extension education aiming at family planning and the building up of scientific attitudes) side by side with expansion of elementary education; the introduction of a system of part-time education for those children who, for economic reasons, cannot attend schools on a whole-time basis; the adoption of a larger class-size or higher pupil-teacher ratio in the first stage of the programme; and placing of greater emphasis on the education of the age-group 11-13 than that of the age-group 6-10. The second and an even more important reason is the failure to accord an adequate priority to elementary education - the total expenditure on elementary

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education has declined from about 40 per cent of total educational expenditure in 1947 to 35 per cent in 1960-61. It is argued that this lower priority is justified on the ground that elementary education does not directly contribute to economic growth. I have shown how fallacious this argument is and that no economic growth would be possible in India unless it is preceded by programmes of mass education of the right type, including the provision of universal elementary education for children, which alone can help us to control population and to modernise the traditional social order. In my opinion, this lower priority accorded to elementary education is due mainly to the fact that the intelligentsia, which has come into power at the end of the British rule, is now tending to transform itself from a service group into an exploiting group. In this lies a great danger - not only to the masses, but to the intelligentsia itself and to the country as a whole. If this broad analysis is accepted, I would close by appealing to all educated classes of the country, who are now on their trial, to accord this programme the highest priority possible, not only in their own enlightened self-interest, but in the name of social justice, of humanity, and of him who gave us our freedom and desired us to strive to wipe out every tear from every eye.

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TABLE NO. 1. PRIMARY EDUCATION IN THE LESS ADVANCED STATES IN THE THIRD FIVE YEAR PLAN

STATE	(in lakhs)											
	1961						1966					
	Total population in age-group 6-10		Total enrolment in classes I-V		Non-attending children		Total population in age-group 6-10		Total enrolment in classes I-V		Non-attending children	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Bihar	29.90	28.44	24.46	7.39	5.44	21.05	34.42	32.86	30.00	18.00	4.42	14.86
Jammu & Kashmir	2.63	2.33	1.65	0.45	0.98	1.88	3.03	2.69	2.24	0.78	0.79	1.91
Madhya Pradesh	21.62	19.96	15.54	4.42	6.08	15.54	24.88	23.05	20.00	10.00	4.88	13.05
Orissa	11.36	10.87	9.71	4.40	1.65	6.47	13.08	12.56	10.50	5.50	2.53	7.06
Rajasthan	14.03	12.72	8.99	2.16	5.04	10.56	16.14	14.69	13.90	7.10	2.24	7.59
Uttar Pradesh	19.77	44.94	32.25	8.68	17.52	36.26	57.29	51.92	45.00	21.50	12.29	30.42
Total for Less Advanced States	129.31	119.26	92.60	27.50	36.71	91.76	148.84	137.77	121.64	62.88	27.20	74.89
All-India Total	283.91	271.71	234.79	113.17	55.12	158.54	333.73	313.91	301.16	195.19	32.57	118.72
Percentage of Less Advanced States to All-India	44.60	43.89	39.44	24.30	66.60	57.88	44.60	43.89	40.39	32.21	83.51	63.08

TABLE NO. II: MIDDLE STAGE EDUCATION IN THE LESS ADVANCED STATES IN THE THIRD PLAN

STATES	(in lakhs)											
	1961						1966					
	Total population in age-group 11-13		Total enrolment in classes VI-VIII		Non-attending children		Total population in age-group 11-13		Total enrolment in classes VI-VIII		Non-attending children	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Bihar	14.28	14.05	4.79	0.56	9.49	13.49	17.81	17.18	7.40	1.85	10.41	15.33
Jammu & Kashmir	1.29	1.15	0.48	0.12	0.81	1.09	1.61	1.44	0.73	0.12	0.89	1.25
Madhya Pradesh	10.33	9.65	2.68	0.49	7.65	9.17	12.88	11.81	4.16	0.80	8.72	11.01
Orissa	5.46	5.25	0.95	0.12	4.51	5.13	6.82	6.43	1.36	0.34	5.46	6.09
Rajasthan	6.86	6.16	1.79	0.28	5.07	5.88	8.56	7.53	3.10	0.75	5.46	6.78
Uttar Pradesh	24.16	22.01	7.02	1.22	17.14	20.79	30.12	26.91	10.00	1.60	20.12	25.31
Total for Less Advanced States	62.33	58.28	17.71	2.79	44.67	55.49	77.80	71.27	26.74	5.50	51.06	65.77
All-India Total	141.56	134.98	50.50	16.03	91.06	118.95	176.57	165.67	70.00	27.48	106.57	137.59
Percentage of the Less Advanced States to All-India	44.07	43.18	35.07	17.40	49.06	46.65	44.06	43.18	38.20	20.01	47.91	47.80



Quality and Quantity

At present, no educational problem is exercising the public mind so much as the rapid expansion of education accompanied by a deterioration in quality. I welcome this growing concern for quality, although I do not share all that is said about deteriorating standards, especially at the elementary stage. I also question the popular assumption, which seems to underlie so much of the discussion, that quality and quantity are mutually exclusive and that you can only have either one or the other. There is no inherent contradiction between quality and quantity in education: all advanced countries have been able to provide good education in adequate measure and India also could do the same if the necessary finances were available. The basis of this contradiction, therefore, is purely financial: when there is not enough money to go around and cover both quality and quantity, we are generally required to make the painful choice between either one or the other. As the resources available to Indian education are limited at present and are going to be limited for some years to come, the main question which we have to face is the reconciliation between the conflicting demands of quantity and quality. The problem applies to all stages of education and is admittedly difficult. But it is not impossible of solution and I propose to discuss this evening some tentative solutions to it in so far as elementary education is concerned.

The first point that I would like to press is that, at the elementary education stage at least, there is no question of either quality or quantity. We must have both - every child must be at school and he must have good education. There is thus no choice about the ultimate goal. But it can be approached in a number of ways. In the first approach, there is an unrelenting stand on quality - all existing

schools are first raised to a prescribed minimum standard and in opening new schools or admitting new enrolment, care is taken to see that the standards are not lowered on any account and are even raised, from time to time, to the extent possible. In this approach, therefore, the cost per pupil is kept high and expansion takes place only in proportion to the additional funds available. In the second approach, quality is compromised with, costs per pupil are kept low, and the first priority is given to enrol every child in school as quickly as possible. When that task is accomplished, at least to a substantial extent, qualitative programmes are taken up and costs per pupil are raised as additional funds become available. In the third approach, a compromise is attempted between these two extreme positions and an attempt is made to secure expansion as well as to raise quality simultaneously by dividing the available resources between qualitative and quantitative programmes in some suitable proportion.

Which of these three approaches shall we adopt in elementary education - that is the question. My view is that the second of these approaches which adopts a crash programme of expansion in the first stage and then concentrates on the improvement of standards is probably most suited to Indian conditions. This can best be shown by a reference to the development of elementary education in Western countries. Here, the first stage was essentially one of quantitative expansion. The costs per pupil were low because of meagre salaries of teachers, large pupil-teacher ratios, comparatively less expenditure on buildings, equipment and school contingencies and the non-existence of ancillary services like school meals or free supply of textbooks and writing materials. The objectives of elementary education were kept deliberately low - confined in fact to the mere attainment of literacy - and the total duration of the

course was consequently kept at minimum - four or five years. When these minimum tasks were complete, or substantially complete, qualitative programmes were taken up. The objectives of education were re-defined and made co-extensive with preparation for life. This necessitated, on the one hand, extension of the duration of compulsory education, from 4-5 to 7-10 years; and on the other, it led to a revision of curricula, necessitating the recruitment of better teachers with high salaries and the adoption of low pupil-teacher ratios. The non-teacher costs of education had also to be increased by provision of better physical amenities and ancillary services. Consequently, enrolments went up and costs per pupil rose even more sharply. But the programme was ultimately complete - every child had been provided with good education. The principal lesson of the development of elementary education in the West, therefore, is this: begin with expansion which has a limited target and is amenable to a crash programme. Once that is complete, or mostly complete, begin the task of qualitative improvement in which the upper limit is the sky itself. Once needs eternity to work for perfection and hence, the best stage to attempt it is after expansion has been put behind. Obviously, similar developments should take place in India, or in any developing country.

By and large, it is this policy which has been adopted for the development of elementary education in the post-independence period, although the Sarget Plan recommended differently. This Plan, it may be pointed out adopted the first approach of an un-compromising stand on quality. It suggested that every teacher must have completed the secondary school and received two years' training. It also insisted on the payment of adequate salaries to teachers, assumed low pupil-teacher ratios and made fairly adequate provision for buildings, equipment, school contingencies and ancillary services. It also advised that the first five years should

be devoted to the preparation of teachers and that expansion, as such, should only be attempted thereafter. This qualitative approach has its own obvious strong points; but it is applicable, by and large, to secondary and higher education. In particular, one would readily grant that departure from it at the post-graduate stage would be tantamount to disaster. But is it really so directly applicable to the elementary stage where the pressures of expansion are intense, or where, as Shri R.V. Parulekar put it, expansion itself is a value of great significance? Even philosophically, therefore, I feel that the Sargent Plan overdid the case for quality at the elementary stage. But its advice was set aside, not so much on philosophical, as on practical considerations. On the attainment of independence, a situation was created in which the masses, long denied the privilege of education, were clamouring for it with all their might and the new national governments which came into power were almost itching to provide this basic social service to the people. In a situation of this type, no one was in a mood to listen to the advice of the Sargent Plan to devote five years to mere preparation! The people wanted expansion - with quality, if possible; and without it, if necessary. Very naturally, they got it without quality; but I do not think any great harm was done.

While, therefore, I fully support the policy of expansion in elementary education adopted in the post-independence period, I do hold that, at the end of the third Plan, a change in policy is indicated. In 1947, the enrolment in classes I-V was only 35 percent of the age-group 6-10 and that in classes VI-VIII was only 9 per cent of the age-group 11-13. Expansion, therefore, was then the crying need of the day. In 1965-66, however, the enrolment in classes I-V would have reached 76 per cent of the age-group 6-10 and that in classes VI-VIII, 32 per cent of the age-group 11-13.

Taking the age-group 6-13, as a whole, more than 60 per cent of the children would have been enrolled in schools. We have thus been able to break the back of the problem of non-attending children and have also put expansion substantially behind us. I, therefore, feel that a stage has now been reached when the emphasis in elementary education may, by and large, be shifted to qualitative improvement; and if such emphasis is continued and intensified in the subsequent two plans, we may be able to provide good elementary education to every child in the country by 1981.

I would make only two exceptions to this general recommendation. The first refers to girls. At the end of the third plan, about 97 per cent of the boys in the age-group 6-10 would have been enrolled and it is mostly girls that would have remained outside. In the fourth Plan, therefore, an intensive effort to bring girls into schools must be made in all the States. The second exception refers to the six less advanced States of Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. As I pointed out yesterday, these six States have not yet been able to put expansion behind them. In these States, therefore, the emphasis on expansion of elementary education will have to be continued for some years more. But even here, quality will have to receive much greater emphasis in future than in the first three Plans.

It will thus be seen that we begin, in 1944, with the Sargent Plan which chose the first approach of an uncompromising emphasis on quality. But the country was not prepared to accept this advice so that we adopted, in the first three Plans, the second approach of emphasis on quantity in the first instance. But now that expansion has been largely put behind, subject to two exceptions which also will disappear in about five years, the general policy in

elementary education in the next three plans should be to adopt the third approach, viz., to develop quality and quantity side by side, with an emphasis on quality.

## II

How shall we implement this new policy in elementary education? For convenience of discussion, I will deal separately with its two aspects of expansion and qualitative improvement.

With regard to expansion, I have already said that I broadly agree with the policy of emphasizing expansion which we adopted in the first three Plans. In the next three Plans, however, certain modifications would be needed even with regard to our policies of expansion. For instance, our rate of expansion in the past has not been rapid enough. To give good results, a programme of expansion has to be a crash programme and must be completed within a few years. We must, therefore, revise our targets and aim at two specific achievements: (1) The enrolment of children in classes I-V is already equal to 100 per cent of the age-group 6-10 in the States of Kerala and Madras and in the Union Territory of Delhi. The same targets should be reached in all the advanced States by the end of the fourth Plan (1970-71) and in the backward States by the end of the fifth Plan (1975-76) at the latest; and (2) A programme of part-time instruction for children in the age-group 11-14 should be started in the Fourth Plan in a big way: and by the end of the Fifth Plan, it should be so developed as to cover most of the children in this age-group who are not attending schools on a whole-time basis. The first target is not very difficult. The total enrolment in classes I-V will be about 50 million at the end of the third Plan (1965-66) and it will have to be raised to 84 million, which is the estimated population of children in the age-group 6-10, at the end of the fifth Plan (1975-76). This implies an average increase of about 3.4 million every year which should not be difficult because our present rate of

additional enrolment is about 4 million a year. The main lacuna, however, is that most of the burden of this additional enrolment will have to be borne by the six backward States. But even they will be able to rise to the occasion if some special assistance is made available. The second of these targets represents an entirely new programme. At present, we have only full-time schools in classes VI-VIII and they will enrol about 10 million children at the end of the third Plan (1965-66). In the normal course, this enrolment will increase to about 16 million at the end of the fourth Plan (1970-71) and to 25 million at the end of the fifth Plan (1975-76). But the total population of children in the age-group 11-13 is expected to be 46 million in 1975-76. We will, therefore, have to enrol about 21 million children in this age-group on a part-time basis (two hours a day for three days a week) - about 6 million in the fourth Plan and another fifteen million in the fifth Plan. This would neither be very costly nor very difficult. But if such a programme can be put across, it will imply that the expansion of elementary education would mostly have been completed by the end of the fifth Plan and that, in the sixth Plan, we could concentrate our efforts almost wholly on quality.

There is one more aspect of this expansion that needs mention. It will also imply that all new additions to ranks of illiterates will be put an end to. We have to realise that, at present, the number of illiterates is increasing in spite of all expansion of elementary education which we have been able to secure. For instance, in 1951, the total population was 360 million and the percentage of literacy was about 16 so that the total number of illiterates was about 302 million. In 1961, the percentage of literacy increased to about 24. But in the meanwhile, the total population increased to 438 million and the total number of illiterates to 334 million. There is thus a net increase

of 32 million in the number of illiterates in spite of the increase of the percentage of literacy from 16 to 24. Such a situation arises because a very large number of children are not either enrolled in schools, or if enrolled, leave it too early to have attained permanent literacy. The programme of universal part-time education for those children who cannot, for one reason or another, attend schools on a whole-time basis, will completely seal off such leakages and permanently ensure that there would be no additions to the ranks of illiterates.

The second important modification needed in our existing programmes of expansion is to keep their cost as low as possible. At present, our expansion programmes cost too much, mainly because we are not prepared to accept the money-saving devices like the double-shift system. Consequently, there is very little left over for programmes of qualitative improvement. I would, therefore, strongly recommend that we should adopt the double-shift system, at least in classes I and II. This will raise the over-all pupil-teacher ratio and secure the largest expansion possible at the minimum cost. In such an event, fairly adequate funds would be available for programmes of qualitative improvement, in spite of the fairly large expansion that is proposed to be achieved.

The third important modification which we will have to make in our programmes of expansion in the next three Plans is to make a conscious effort to secure equality of educational opportunity. In the first three Plans, a large expansion has been secured no doubt; but not having been deliberately organised on proper lines, it has not necessarily led to greater equality of educational opportunity. For instance, even at the end of the third Plan, there will be appreciable inequalities of educational opportunity at several levels and in several sectors. From the national point of view, there will be wide gaps between advanced States like Kerala or Madras



and backward States like Rajasthan or Uttar Pradesh. At the State level, we find great differences of achievement between certain advanced districts like Amraoti in Maharashtra and Bastar in Madhya Pradesh. Even within the same districts, there are often large differences between one Tehsil of the district and another and even within the same Tehsil, not all villages are equally advanced. There are still large differences between urban and rural areas. From the social points of view, there is great inequality of educational development between boys and girls and also between the advanced classes on the one hand and the scheduled castes and scheduled tribes on the other. In the next three plans, expansion of elementary education would have to be oriented deliberately to the removal of such inequalities. Suitable programmes to this end will have to be devised and we should also evolve statistical and other techniques to measure our progress in this direction from time to time.

Before leaving this subject, I would like to emphasise the fact that the techniques of expansion adopted in the first three Plans have served their purpose and that they will have to be greatly modified to suit the demands of the next three Plans. All expansion of elementary education takes place in three stages. The first is that of universal provision in which an attempt is made to provide a school within easy walking distance of the home of every child so that those who desire to educate their children may have the necessary facilities available. The second stage is that of universal enrolment when an attempt is made to enrol every child into a school, by propaganda, persuasion or even penal action. This is obviously more difficult than the first. But even more difficult is the third stage of universal retention in which an attempt is made to keep in school every child that is once enrolled till he reaches the

prescribed age or completes the prescribed class. It is obvious that these three stages are not mutually exclusive and that they often run into one another. In the first three Plans, the largest emphasis was on the first stage, universal provision of schools. To assist in the realisation of this goal, an Educational Survey of the country as a whole was carried out in 1957\*. It found that there were about 800,000 rural habitations in the country. It assumed that a primary school should be provided in every habitation of 300 people or more and that the smaller habitations should be so grouped that every child would have a school within 1-2 miles of his home. It also assumed that a middle school would be provided in every habitation of 1500 people and that the smaller habitations should be so grouped as to create a middle school within 3-5 miles of the home of every child. On these assumptions, it proposed the opening of about 103,000 new primary schools and about 21,700 new middle schools. Most of these have been opened in the last seven years. All the same, it would be worthwhile to revise the educational survey in 1965 and, whatever task has yet remained undone, an effort should be made to complete it by the end of the fourth Plan at the latest.

With regard to the second step in the programme viz., universal enrolment, our achievements in the first three Plans have been rather haphazard. The main object of this step is to enrol all children in the age-group 6 plus (with some exceptions in the case of children of 5 plus or 7 plus) in class I. But unfortunately, we have not been very conscious of this objective. What happens at present is that children of all ages - from 4 to 14 and above - are indiscriminately enrolled in class I. We, therefore, find that although the total enrolment in class I is about 110 per cent of the population in the age-group 6-7, only about 35 per cent of these are of the correct age-group (6-7) and the rest are

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\*Report of the All-India Educational Survey, Ministry of Education, 1960

either below or above this age. The age-composition of the class is thus extremely heterogeneous and the appropriate age-group forms only a third of the total enrolment. This creates several pedagogic problems in the class and also leads to stagnation and wastage. We have to avoid such haphazard enrolments in future and strive to change the age-composition of children in class I in such a way that about 80 per cent of the enrolment would be of the age-group 6-7 and the rest mostly of children in the ages 5-6 or 7-8. Given a conscious and intensive effort, there is no reason why we should not be able to complete it by the end of the fourth Plan.

Once the children of the right age-group (6-7) are enrolled in class I, we have to see that they progress annually from class to class (there is no stagnation) and that they do not leave school till they complete 14 years of age or the elementary course. This is universality of retention - the third step in the programme of compulsory education - and can be achieved only by reduction of wastage and stagnation. This aspect of the problem has been mostly neglected in the first three Plans so that wastage and stagnation are very high at present: of every 100 children who enter class I, only about 40 reach class V in the fifth year and only about 20 reach class VIII in the eighth year. By the end of the third Plan, we should have reached a stage, in most parts of the country, when about 90 per cent of the children will be going to school at some stage or the other, but the over-all enrolments would still remain small because the average duration of school life of a child is only about 3 years instead of 7 or 8. The principal method of securing expansion of elementary education in the next three Plans, therefore, is not so much the enrolment of non-attending children (there will not be any left very soon), but increasing the duration of the school life of the average child from three to about seven or eight years. Our third programme for the fourth

and subsequent plans - it is a tough problem and we will have to grapple with it for 10 or 15 years - will thus be to make a deliberate and intensive effort to reduce stagnation and wastage, or increase the duration of school life of every child.

### III

I have so far described the main programmes of expansion that will have to be attempted in the next fifteen years and particularly in the fourth Plan, I shall now turn to the programmes of qualitative improvement which have to be emphasised simultaneously in the same period. I have already referred to two of these - the enrolment of the children of the appropriate age-group in each class and the reduction of wastage and stagnation which are essentially programmes of expansion with implications for qualitative improvement as well. The third programme that I visualise is a rather unorthodox proposal, viz. that we should concentrate, in the fourth Plan, on the qualitative improvement of middle schools (classes V-VII or VI-VIII) rather than of the primary schools (classes I-IV or I-V). In the fourth Plan, I do not have much hope being able to raise standards at the primary stage. The number of primary schools is very large, more than 500,000, their total enrolments - 52 million - equal almost the entire population of U.K.; the annual additional enrolment alone is of the order of 4 million; the paucity of financial resources is forcing us to adopt larger classes and the double shift system would have to be introduced, almost universally, in classes I and II. In view of these conditions, no real qualitative break through is possible at the primary stage unless very large investments are made and these are not practicable at present. I would, therefore, recommend that, in the fourth Plan, a humbler programme should be attempted at the primary stage. The objective of teaching should be the three R's, good manners, healthy habits, some skill with hands, general knowledge

which will include familiarity with the physical and social environment of India - her lands and people, and the building up of some essential qualities like sense of responsibility, cooperativeness, discipline, and patriotism. The programme should be mainly based upon the excellent suggestion of Shri G. Ramachandran - orientation of primary schools to the basic pattern - and should emphasise activities <sup>like</sup> simple hand-work and music, dance and fine arts. This - and the conscious effort to reduce stagnation and wastage - is all that can be realistically attempted at the primary stage, and we should concentrate on it. In administration, not low aim, but failure is a crime.

At the middle school stage, however, I would recommend an intensive effort to improve all existing middle schools to a prescribed minimum standard in the fourth plan itself and to adopt the policy of the Sargent Plan in subsequent years, i.e., to maintain all existing middle schools at a given standard of efficiency, to insist on all the new middle schools coming up to the prescribed standards and to strive continually to raise these standards from time to time. I make this recommendation on various grounds. The number of middle schools is comparatively small at present, about 50,000; their enrolments are still small - about 10 million; each middle school is a fairly big unit, of about 200 pupils with not less than three teachers, the average being about 5; and most of these are situated in the bigger and more accessible villages. It is, therefore, still possible, within the limited resources that we have, to improve all middle schools to a reasonable standard. Moreover, as the wastage at this stage is very low (about 80 percent of the students go up to the secondary stage), our investment will give adequate return and whatever improvement we do will climb up to the secondary stage. I must also warn that it is essential to make this attempt in the fourth Plan only. In the fifth and sixth plans, the size of the

enrolments will become very big, and the problem will again be difficult of solution. NOW - the problem is comparatively easy. LATER - it may be difficult, very, very difficult.

How do we improve the middle school stage? The first and the most important measure is to appoint a trained graduate, on the scale that we usually give him in a secondary school, as the headmaster. All other teachers should at least be matriculates and trained. In-service <sup>training</sup> should be provided for teachers. The pupil-teacher ratio should be kept low (25:1) and subject-wise teaching - as in secondary schools - may be introduced wherever possible. Greater attention should be paid to buildings and equipment; school contingencies should be increased; and a craft should be taught compulsorily in all middle schools. Standards in craft teaching should be kept high with the help of specialist teachers trained in the craft, good tools and adequate funds and organisation.

If this programme can be put across in the fourth Plan and maintained in subsequent plans, a good middle school would have been established within 3-5 miles from the home of every child. The influence of this model will soon begin to percolate to primary schools as well, especially if we relate the work of each middle school integrally with that of the primary schools in its neighbourhood. In the fifth and sixth plans, the enrolments in primary schools will not increase so rapidly because most of the expansion would have been put behind. It will, therefore, be possible to concentrate on the qualitative development of primary schools at this time so that, by the end of the sixth plan, both primary and middle schools would have been qualitatively improved. This is probably the best strategy that will help us in providing good elementary education.

This brings me to another radical improvement needed in elementary education.

This brings me to another radical improvement needed in elementary education - the improvement of the elementary

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teacher. It has almost become a platitude to emphasize the crucial role of the teacher in qualitative improvement; but so very little is done about in practice. I feel that this programme should receive the highest priority in the fourth and subsequent plans and we should adopt a number of definite measures to promote it. The first and the most important of these is to improve the remuneration of the elementary teacher so that more able persons are attracted to the profession. The average annual salary of elementary school teachers was only Rs 414 in 1946-47 and by 1960-61, it increased to Rs 932 only. What is needed is a substantial improvement - to fix a minimum of Rs 100 p.m. and to create a scale of pay rising to about Rs 200 in a period of about 20 years. There should also be a selection grade, for about 15 per cent of the cadre, which should begin and end at some higher points. These proposals are related to the 1961 costs of living and they will have to be modified to compensate for any rise in prices that might take place from time to time. Secondly, the existing 'castes' amongst elementary teachers - the teachers in government or local board or private service - should be done away with and all elementary teachers, irrespective of the management under which they may happen to serve, should have the same remuneration, old-age benefits and conditions of service. I also greatly welcome the policy to provide a social security to as many families as possible which has now been initiated by the Government of India; and I suggest that social security benefits, on the lines of those provided for the employees of the Central Government, should be extended to all elementary school teachers.

The improvement in the general education and professional training of elementary teachers is also equally important. In 1947, the bulk of the elementary teachers had only completed the middle school, only about 12 per cent were matriculates,

and graduates were almost a rare exception. During the last 16 years, the picture has considerably changed. Most of the new recruitment to the cadre of elementary teachers now consists of matriculates - in some States exclusively so - and about 20,000 graduates are already working in elementary schools. We should immediately stop the recruitment of non-matriculates as elementary teacher; and, during the next three plans, it should be our endeavour to increase the proportion of graduates as largely as possible - the middle schools must be largely staffed by trained graduates and the majority of posts of headmasters of the bigger primary schools should also be held by them. The duration of the training course - which is now one year only in many States - should be uniformly raised to two years; and in the fourth Plan itself the backlog of all untrained teachers at the end of the third plan (about 400,000) should be cleared and the training facilities should be so increased that, by 1970-71, the annual output of trained teachers should be about equal to the annual demand for additional teachers. In-service training, which just does not exist at present, will have to be provided for all teachers, on a well-organised and institutional basis so that every elementary teacher will have about 2-3 months inservice training in every five years of service. Literature for teachers would have to be brought out on a very large-scale in all the modern languages of India and ample facilities and inducements would have to be provided to them to improve their general education and professional competence, through a variety of inservice education programmes, including correspondence courses. The standard of the training institutions, which now leaves much to be desired, will also have to be improved by such measures as better scales of pay and training for teacher educators, improvement of curricula and teaching methods, and provision of better physical facilities in terms of buildings, libraries and laboratories. By and large,



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it may be said that the training programmes of elementary teachers which have been comparatively neglected so far in the post-independence period should be emphasized and given their due place in the next three Plans. In the fourth Plan, a very large effort should be made to wipe out all the past sins of commission and omission in this sector. From this point of view, I greatly welcome the establishment of the State Institutes of Education which will make an earnest attempt to develop elementary education through programmes of training, research, extension and publication. They have just come into existence and will have to be carefully nurtured in the fourth Plan.

In the Western countries, <sup>the</sup> standards of elementary education rose through an interesting process. In the earliest stage, the objectives, duration and curricula of the elementary stage were very limited, the teachers were low-paid and they had meagre general education with little or no professional training. The output of persons who had received secondary or higher education was too small and they usually felt it beneath their dignity to teach in elementary schools. As time passed, however, the salaries of elementary teachers began to rise and simultaneously, the output of persons who had received secondary and higher education also began to increase. Better educated persons began, therefore, to join the profession in increasing numbers; and with the availability of better teachers, the objectives and curricula of elementary education began to be upgraded and its duration began to be lengthened. Ultimately, both elementary and secondary stages were integrated into a single 'school-stage'; a common scale of pay for all teachers - both elementary and secondary - was introduced and in most cases, the minimum qualification for an elementary teacher was raised to a liberal arts degree

with adequate professional training (or its equivalent). In India also, we must start moving in the same direction, using a rise in salaries, accompanied by an improvement in qualifications, as our principal lever of progress. If we can consistently keep up this programme for about fifteen years, developments very similar to what has already taken place in Western countries will take place in India also. That is to say, the academic and social status of elementary teachers will continually increase and the standards of elementary education will rise in proportion.

There is another important trend, now well-established in Western countries, which we shall also have to adopt in India, viz., the provision of ancillary services, such as school health (including school meals), free supply of text-books and writing materials and school uniforms. The provision of these services is now essentially a responsibility of the home. But they affect the academic progress of a child and his future so materially that we do not really provide equality of educational opportunity by mere enrolment of all children into schools. What is needed is that the State should take over these residual functions of the home also, so that, irrespective of his birth, every child will have an equal opportunity to grow into adulthood. I concede the point that the provision of these services is very costly and that it will have to be gradual; and I also concede the point that these would rank lower in priority to the improvement of elementary teachers. I do feel, however, that we can certainly do more than what we are doing at present. The simplest and the least costly ancillary service we can introduce is to give free textbooks and reading materials to every child. The existing conditions are almost pathetic and a recent survey has shown that about 40 per cent of the children in elementary schools do not have even the minimum school textbooks. If we can adopt the system of keeping books

and writing materials in the schools and making them available to the children during school hours, the cost of the programme would be considerably cut down and even with these limited facilities, it will have a great effect <sup>on</sup> improvement of standards. I would, therefore, strongly recommend the implementation of this programme in the fourth plan. Next in order would be the provision of school uniforms. If a simple uniform is designed, the parents properly enlightened on its utility, and some help is given to the poor and needy children, it will be possible to put across this programme also without heavy costs. It will obviously be a great help in enrolling girls, particularly at the middle school stage. The programme of school meals has already started - thanks to the lead given by Madras - and about 8 million children, out of a total enrolment of about 60 million, receive either a glass of milk or a meal a day at present. But the programme depends almost pathetically on foreign gifts of foodstuffs. I do feel that we should make an effort to build up this programme on indigenous materials and to expand it gradually as resources become available. It should be our target to provide a school meal to all the poor and needy children - which would be about 30 per cent of the total enrolment - by the end of the sixth Plan. The provision of school health services will be still more gradual and will only advance as part of the general health services being developed for the community as a whole. But even here, a higher priority could be accorded to school health services - they are mostly ignored at present.

There is one more programme which will help us to improve standards, viz., the classification of elementary schools. At present, we have no data to show the qualitative status of elementary schools. I, therefore, suggest that we should define norms for elementary schools at two levels - the minimum level (which may be designated as D and the desirable

level which may be designated as B. Schools which are better than the desirable norms may be classified as A; those which fall between the desirable and minimum norms should be classified as C; and those which fall below the minimum norms may be classified as E. All elementary schools should thus be annually classified, on the basis of their standards, in a five-point scale.- A, B, C, D and E. Evaluative criteria for this purpose should be designed and handbooks prepared for using them. The first evaluation of the school should be done, on the basis of these criteria, by the teachers and it should later on be finalised by the inspecting officer in consultation with the teachers. If such a system of the annual qualitative classification of schools can be prepared and implemented, it will help materially in raising standards. We should also devise, as a supplement to this system, a programme of assistance to individual schools to overcome their shortcomings and to rise to higher levels of classification.

#### IV

I shall now turn to another programme of qualitative improvement, viz., basic education. As you are aware, one of the most important problems in elementary education on which a firm and definite decision will have to be taken and implemented in the next three Plans is that of Basic Education. This scheme was launched more than 25 years ago; and in spite of all the support it has received from the Central and the State Governments, it has not progressed very satisfactorily. The total number of schools converted to the basic pattern is comparatively small and the rate of further conversion is so slow that it may take more than 25 years to convert all elementary schools to the basic pattern. What is worse, the quality of schools said to have been converted to the basic pattern is poor and has not justified the expectations entertained

from basic education. In fact, it is the poor quality of these schools that has led Dr. Zakir Husain to say that the system of basic education, as it is practised today, is a fraud. It is, therefore, natural that public interest in the programme of basic education should have been considerably aroused, especially after Dr. Zakir Husain's statement on basic education was made public. In the discussions that have followed this statement, three trends can be discerned. One group of thinkers concludes that basic education has failed and that the entire experiment should be scrapped; another group of thinkers is as firmly convinced as ever that the system of basic education is the answer to the problems of universal elementary education in India and pleads for a better and more vigorous implementation of the programme. In between these two groups, there is a third group of thinkers which believes that the principles on which the programme of basic education is founded are intrinsically sound and advocates a substantial modification of the scheme before attempting its universalisation in the Fourth and subsequent plans. This group of thinkers to which I belong is, however, under a moral obligation to come forward with concrete proposals regarding the manner in which the system of basic education will have to be amended in order to make it more useful and effective. It is this exercise that I propose to attempt this evening. It must be realised that the scheme of basic education has undergone considerable changes since it was first put forward in 1937. In fact, it has really undergone such vast changes that Shri G. Ramachandran is fully justified in asserting that it is the most dynamic educational concept in Indian educational history. It is this very dynamism that emboldens me to suggest a few more changes.

To begin with, some misunderstandings have to be avoided. Some of the original features of the scheme of basic education which created a good deal of antagonism have now been modified so that there is no reason to oppose basic education on those grounds. For instance, the self-sufficiency aspect of the scheme is now firmly abandoned. All that is now expected is that a craft, if well-practised, will bring in some income which should at least meet the expenditure on raw materials and maintenance of equipment. It should also leave some surplus which may be used for the benefit of the students practising the craft. It is also now agreed that basic education will not be cheaper than mere literacy education - it is good education and, therefore, it will necessarily cost more. Craft is no longer the only centre for correlation - two other centres for correlation - the physical and social environment of the child are also to be used as such centres. Even correlation itself is no longer as exclusively and fanatically supported as it once was in the past - it has to be attempted naturally to the extent possible. There is no longer an insistence on spinning and weaving as the craft - the utility of other crafts, particularly agriculture, is admitted, both in theory and practice. At one time, English was held to be contradictory to Basic Education and was not taught in basic schools. It is now accepted as an integral part of basic education. The use of text-books, once not allowed in basic schools, is now generally accepted; and so on. I can give some more illustrations but they seem to be hardly needed. What I would like to emphasize is that the attempt to condemn or criticize basic education on such grounds is not proper because the system has outgrown all these earlier features.

To my mind, the main contribution of basic education has been to make us realise that a system of purely academic and book-centred education which the traditional schools provide is not good for the country. The traditional ethos of our society

is that the educated man does not work with his hand. This is a very harmful tradition because, under such a scheme, the spread of education will lead to a fall in production and an increase of poverty and will ultimately lead to a reduction in education itself. In place of this, basic education has attempted to create a new ethos which will link education to increased productivity and which expects educated men also to work with their hands and to produce more plentiful and better goods than uneducated persons. One thing is, therefore, certain. There is no going back now, even if we were to abandon basic education, to the earlier traditional system of book-centred elementary education. We can only go ahead with a new type of schools whose curricula will include work, in some form or other.

Basic education has not worked in practice due to several reasons. Probably the most important of these is the adoption of a wrong strategy. For instance, it tried to introduce craft at the primary stage where the numbers are so large that no experiment worth the name is possible. Similarly, the idea that every teacher can teach craft has not worked well in practice so far, nor is it likely to do so in future. I, therefore, feel that the correct strategy to universalize basic education is to adopt the orientation programme of Shri G. Ramachandran at the primary stage and to introduce the compulsory teaching of a craft at the middle school and secondary stages (or in the age-group 11-16) through properly trained and specialized teachers. The grown up children at these stages learn a craft better and there is less of wastage.

There is another reason why the teaching of a craft should be emphasized in the age-group 11-16. I find that a child is weaned away from manual labour and is made to develop a white-collar attitude to work at the middle and

secondary stages. I have made special studies of rural children from this point of view in Maharashtra and I have found that children who had completed the primary course of four or five years in the ordinary academic book-ridden traditional school were still able to work efficiently as agriculturists, barbers, tailors, shop assistants and even as casual labourers. In other words, even the most bookish of education in the age-group 6-10 does not destroy the capacity of a person to adjust himself to manual work in later life and to perform it with competence. A boy who has passed through the middle or the secondary school, however, finds it very difficult to take up and adjust himself to manual work, and such adjustment becomes almost impossible when he passes through a university and gets a degree or diploma. The conclusion is, therefore, obvious, the weaning from manual work and the development of a white-collar attitude begins at the middle and secondary stages and is completed at the university stage. If, therefore, we want to change the traditional ethos of our society, to relate education to productivity and to accustom our children to manual work, we must emphasize on the teaching of the craft at the middle and secondary stages and involve even university students, to the extent possible in manual and productive work.

If this analysis is accepted, the lines on which our present programme of basic education needs amendment would be clear. I would state them briefly as follows:-

(1) At the primary stage (age-group 6-10), there should be no attempt to introduce the craft and to emphasize its teaching. In classes I and II, we need not attempt anything more than the introduction of activities. This would be almost inescapable in view of the proposal to adopt the double-shift system in these two classes on financial grounds. In classes III to V, all that we should attempt is the introduction of hand-work and



and simple crafts like kitchen-gardening. In fact, I would sum up the education at the primary stage as including (i) a thorough inculcation of the basic tools of learning - reading, writing and arithmetic; (ii) the development of proper habits, an education in citizenship and a programme of general information related to the social and physical environments of the child; (iii) plenty of activities, curricular and co-curricular; (iv) hand work or kitchen gardening; and (v) a much greater emphasis on artistic and aesthetic activities such as painting, music and dancing than what is provided at present. In my opinion, such a programme will be all that is necessary to provide the necessary skill in the manipulation of fingers and hands and to lay the foundation of a programme of craft education proper which is to follow at a later stage.

(2) In the middle and the secondary schools (from class VI to Class X), the learning of a craft should be made compulsory. At this stage the numbers to be dealt with are small. It would, therefore, be possible to appoint special teachers for crafts, to provide the necessary equipment, to exercise proper supervision and to see that the teaching and the learning of the craft is done efficiently. The wastage can be kept to the minimum at this stage and that the productivity would also be very high. There is no doubt that the proper teaching of a craft at this stage would certainly bring in return something more than raw material and the maintenance of equipment (including depreciation).

(3) At the University stage also, a good deal of camping should be introduced in which students should be required to do manual and productive work. This would continue to foster attitudes which are built up earlier at the middle and secondary stages.

It is my firm conviction that basic education has drowned itself under the uncontrollable flood of numbers by trying to introduce the teaching of craft at the primary stage. This attempt has failed- it could have hardly succeeded-and we are left with neither resources nor energy to introduce the teaching of the craft at the appropriate stages - middle and the secondary. I feel that the only way out of the present chaos is to correct this mistake and for the next ten years to concentrate on the proper teaching of a compulsory craft in all middle and secondary schools. If this programme is successfully implemented, it may be possible, at a later stage, to introduce some form of craft teaching at the primary stage also.

One more point regarding the relationship between quantity and quality. It is our experience in the first three Plans- and particularly in the third - that attempts made to pursue quantity and quality simultaneously have failed so far mainly because the quantitative pressures are immense, and when these begin to rise, the qualitative programmes are driven to the wall and the funds meant for them are mostly diverted to quantitative schemes. We must see to it that this experience is not repeated in the next three Plans.

In my opinion, the best way to save qualitative programmes from such annihilation is to put them in the centrally-sponsored programmes. At present, all educational development programmes are divided into three groups - (1) central programmes which are planned, financed and implemented by the Centre; (2) centrally-sponsored programmes which are financed exclusively by the Centre, planned by the Centre in consultation with the States, and implemented by the States; and (3) State programmes which are planned by the States, financed by the States (with some central assistance) and implemented by the States. At present, most programmes of elementary education are in the State sector. Consequently, they are liable to all the

quantitative pressures that are created at the State level and, as most central grants are used for State plans only, these pressures also climb up to the central level as well. All these consequences can be avoided by putting the essential programmes of qualitative improvement in the centrally-sponsored sector. As the funds for this sector are provided in the Central budget, they cannot be diverted, at the State level, to quantitative programmes. This is, therefore, an ideal device to see that programmes of qualitative improvement are given due protection from encroachment by the programmes of expansion and we should adopt it as a major strategy in all the next three Plans.

Before I close, I would like briefly to sum up the main points I have put forward this evening. I pointed out that, in the first three Plans, we concentrated mainly on quantity and generally neglected quality. In the next three Plans, however, we shall have to develop quantitative and qualitative programmes side by side, with an emphasis on quality so that we will be able to provide good education for every child by the end of the sixth Five Year Plan. From the point of view of expansion, I have suggested that expansion should really become a crash programme with a high tempo; that its costs should be kept down as greatly as possible by adoption of devices like the double-shift system; that a conscious effort should be made to provide equality of educational opportunity; and that the techniques of expansion adopted in the first three Plans should be changed to suit the requirements of the situation in the next three Plans. I have, for instance, suggested the revision of the educational survey of India and the provision of an elementary school within easy walking distance from the home of every child; the enrolment of children of the appropriate age-group in each class; conscious and intensive efforts to reduce wastage and stagnation; and the organisation of part-time schools for all those children

in the age-group 11-13 who cannot attend school on a whole-time basis owing to economic difficulties. From the qualitative point of view, I place the highest importance on the improvement of elementary teachers: their remuneration, general education and professional training - both pre-service & in-service. I have also suggested that, from a point of view of strategy, an intensive development of all middle schools should be attempted in the fourth plan and that of primary schools in the fifth and the sixth plans. The second programme I would like to emphasize is the provision of ancillary services: the supply of free textbooks and writing materials to all children before the end of the fourth Plan, and the provision of school uniforms and school meals to all the poor and needy children before the end of the sixth plan. I have also suggested the universalization of the system of basic education with certain modifications. What is even more important, I have suggested that the funds required for the qualitative improvement of elementary education should put in the centrally-sponsored sector to protect them from diversion to programmes of quantitative expansion. If these fundamental steps are taken, the foundations would have been laid for bringing about worthwhile changes in the objectives of elementary education, its curricula and teaching methods. It is essentially because of the absence of these basic conditions that our efforts to improve the objectives of elementary education, newer curricula and better methods of teaching have not succeeded so far. Nor will they do so unless we learn to put the first things first.

LECTURE III

Administration and Finance

I

Some of the most crucial problems of elementary education are administrative and financial and it would be a very viable thesis to assert that most of the present ills of elementary education in India arise from two main causes: our failure to evolve a good system of administration for the elementary schools and our inability to raise the vast resources needed for a programme of providing good elementary education to every child. I, therefore, propose, in this concluding lecture, to deal a little in detail with these two vital issues.

II

I will begin first with administration. Here the main tragedy is that, in spite of experimentation spread over eighty years, we have not yet been able to make up our mind on two issues: (1) whether the administration of elementary education should or should not be entrusted to local bodies; and (2) if it is to be so entrusted, the proper form which this decentralization should take.

It is a curious coincidence of our educational history that whenever we took a decision to develop elementary education, we also decided, almost simultaneously, to transfer its administration to local bodies. For instance, the Indian Education Commission (1882) was established with the main object of suggesting the manner in which elementary education could be developed. It recommended, on the one hand, that the strenuous efforts of Government should be directed to the development of elementary education and, on the other,

that its administration should be entrusted to local bodies. It was in pursuance of its recommendations that the administration of elementary education was first transferred to local bodies between 1884 and 1889. The results were not very happy and showed that elementary education will not advance, except on the basis of an intensive State and Central effort. Lord Curzon, therefore, introduced a new policy of Central grants and larger State initiative in 1904. The second spurt of activity came in by 1921 when education was first transferred to Indian control and almost every legislature in British India passed compulsory education laws with a view to achieving large-scale expansion and improvement of elementary education. Instead of learning from the experience of the past, the mistake of 1832 was again repeated: the local bodies were re-organised and democratized and were entrusted with an almost uncontrolled authority over elementary education. The results were again discouraging and the 'reform' was severely criticised by the Hartog Report in 1928. Consequently, in some States, the powers given to local bodies over elementary education were either partially or wholly withdrawn or largely restricted. The third spurt of activity came in the post-independence period when the Constitution singled out the provision of universal elementary education as a directive of State policy in 1950. But very soon thereafter, on the basis of the Balvantrai Mehta Committee's Report, it was also decided to transfer the administration of elementary education to Panchayati Raj institutions. The results have again been unsatisfactory and have raised a number of disquieting problems. If this policy is universally adopted - and that is what the Ministry of Community Development would like to do - the future of elementary education in India would be inseparably linked up with the future of Panchayati institutions. This introduces an

additional factor of uncertainty and difficulty in a situation which is already none-too-simple.

In my opinion, the situation has been vitiated by two rather extraneous considerations. The first is the compulsion we feel to entrust the administration of elementary education to local bodies. In the British period, this compulsion was political in origin because of the need to transfer some innocuous authority to the people themselves - the goal of 'self-government'. This tradition has continued to linger on even when it is no longer strictly applicable. In addition, we also rationalise it at present on the basis of another slogan - decentralisation. The second compulsion is to immitate Britian, which has made us copy, a little too uncritically, their system of local self-government to the exclusion of all valuable traditions in the same field developed by other countries (e.g. France). I shall, therefore, put before you a rather unorthodox approach to the solution of this controversial and difficult problem and I am sure that it would be far more acceptable, provided these two historical compulsions were suffer from can be shaken off. As an introduction to my thesis, let me explain, briefly the French system of administration of elementary education. Here the most crucial point is that the teacher is a servant of Government which undertakes to provide, to every local community, as many well-educated, well-trained and well-paid teachers as it needs on the basis of its local child population. The supervision of elementary schools is also an exclusive responsibility of the State. But all the non-teacher costs and programmes are a responsibility of the Commune. In France every single local community from the smallest village of 100 people to Paris itself is a commune - which manages them with the help of funds raised partly through local taxation, partly through voluntary contributions of the

parents and partly through grants-in-aid from the State. Functions such as construction and maintenance of buildings and playgrounds, provision of ancillary services, assistance to needy or bright children, are all managed by the communes. The grant-in-aid from the State is given on a basis of equalisation, that is, the richer communes get less and the poorer ones, more. The communes can at the most request government to 'recall' the teacher. But they have no other statutory authority over him. In practice, however, most of the teachers hit it off very well with their local communities and so long as they do their work properly - and there can be no shrewer judge of the quality of work of a teacher than the interested parent - things run on very smoothly.

In my opinion, we would be well advised to adopt the French system of administration of elementary education under which the elementary teachers would be servants of the State Governments and all non-teacher matters would be looked after by the local communities or village panchayats. I hold the view that there is no substitute, in elementary education, to the keen interest which a parent should take in the education of his child. This does not exist very largely in our society at present, because of mass illiteracy; and we try to make up for it in other ways such as improvement of supervision over the village school. I would like to state categorically that all such attempts have failed and are doomed to failure and that the one concrete programme on which we will have to concentrate, during the next three plans, would be to develop mass education and to awaken every parent to his responsibility for the education of his children. If this could be done - and there seems to be no escape from it, either in the short or in the long-run - it will be necessary to associate the local community, which consists of conscious parents, with the local elementary school. We shall, therefore, have to initiate a programme of establishing village school committees - consisting



partly of persons elected by the local village panchayat and partly of those nominated by the Education Departments for their interest in education - and entrust them with fairly large administrative powers over local elementary schools. In fact, they should be in charge of all matters except the control over the teacher and should look after the construction and maintenance of buildings, playgrounds, the school garden and the school farm; the provision of ancillary services to school children; the association of the local community with the school; the enforcement of compulsory attendance; the purchase and provision of equipment; celebration of school festivals, etc. To enable them to discharge these functions, they should have adequate funds at their disposal which should consist of a minimum compulsory levy made by the village panchayats, voluntary contributions donated by the people and grants-in-aid from the higher levels on the basis of equalisation. This is the one programme of democratic decentralisation which will do the largest good to elementary education and yet it is the one programme that gets ignored under the decentralisation as now carried out under the Panchayati Raj institutions. The Assam Compulsory Education Act of 1962 is the only Act in the whole of India which is based on this concept and I wish that other State Governments would follow the example.\*

If this view is accepted, the teachers should all be government servants. They will thus be equated with public servants and gain in economic and social status. The existing 'castes' amongst them will disappear and a better type of recruit would be attracted to the profession, particularly from amongst women. We must realise that the quality of elementary education

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\* For details of the manner in which local communities can be associated with elementary schools at the village level, please see my paper in Annexure I - J.P. Naik.

a pawn in a local political game.

If association of local bodies at any level higher than the local community is wished at all, the lowest level at which it should be attempted would be the district. The Block is too close to the village and the leadership now available at that level is of a much lower calibre. Consequently, the teacher's position is most weakened when control over him is vested at the block level. At the district level, there is generally a great distance between him and the members of the local body and the adverse results on his morale are not so great. Even in this case, however, I would very strongly urge that control over the services of the teacher should be vested in officers of government who should be loaned to local bodies as Chief Executive Officers and not in the local bodies themselves. This will ensure justice and maintenance of order. The local bodies at the district level may be given full authority over planning the development of elementary education, for raising and expending the funds required for it, and for the determination of all general policy matters. What we have tried to do in the past is to hope that the local bodies will raise larger resources for elementary education if we could bribe them with power over teachers. This is ethically wrong; it has not worked out in practice; and its administrative and educational consequences have been disastrous. The sooner we stop this experiment - we should really organise a S.P.C.T., i.e. Society for the Prevention of Cruelty to Teachers - the better.

### III

There are two more issues which I would like to raise in this context. The first is the need to integrate all school education from pre-primary to secondary or higher secondary. In the past, primary education was kept

apart from secondary, mainly on linguistic grounds - the former taught through the medium of the Indian languages while the latter used English as a subject of study in the first instance and, as soon as practicable, as a medium of instruction. There is no longer any need for this differentiation because the modern languages of India have now been accepted as the media of instruction at the entire school stage. Moreover, we have to remember that, in all the advanced countries, there is no longer any water-tight distinction between elementary and secondary education and the entire school stage is treated as an integrated system. As I have said before, this basic reform has also been accompanied by another revolutionary development, viz., the introduction of an integrated scale of pay for both elementary and secondary teachers. Developments on these lines will have to take place in India also; and the sooner we bring them about the better. I, therefore, look forward to the evolution of an integrated system of elementary and secondary education in all parts of the country.

If this major reform is agreed to, it follows immediately that we shall have to transfer to local bodies, if we decide to do so at all, not only the administration of the entire field of school education - from pre-primary to secondary or higher secondary. I would like to point out that such a transfer can only be made at the district level and that it is fraught with far fewer evils than the mere transfer of primary or middle school education at the block level. I, therefore, hold the view that so long as an integrated system of school education has not been evolved and primary education continues to be administered in isolation, it would be better to adopt the French system for its administration. But as soon as an integrated system of school education is evolved, it would be desirable to transfer

its administration to a specially constituted local body at the district level. Even in this transfer, there should be adequate safeguards to protect the interests of teachers and to see that their morale is not adversely affected.

Significant problems of life cannot generally be solved in isolation. The administration of elementary education is no exception to this general rule and, in my opinion, it may not be possible to find a satisfactory solution to it unless issues wider than elementary education are also taken into account. My own proposal is that we should establish a statutory Local Development Authority in each district, at the district level. It should be responsible for preparing and implementing an integrated plan of district development - a plan which will consist of three parts, family planning, economic development and educational reconstruction. At present, the labour force cohort (i.e. the boys and girls who attain the age of 16 and enter the labour force in a given year) suffers from three main defects or difficulties. The first is that its size is too large - about 2 per cent of the total population - owing to the prevalence of a large birth-rate. Secondly, its educational attainments are also very meagre - about 60 per cent of the cohort would be illiterate; about 35 per cent would have completed primary schooling and attained permanent literacy; about 25 per cent would have received more than five years of schooling and probably completed the middle school course; about 10 per cent would have completed the secondary school; and only about 1 or 2 per cent might be graduates. These are far too inadequate for the creation of a modern social order. Thirdly, the rate of economic development, especially in rural areas, is so slow that there are not enough jobs for even half of this cohort. What is worse, the little education that has been given to its personnel is so predominantly academic that there

are no suitably trained persons to man the key posts in several sectors of industrialisation that are being developed at present. It should be the principal responsibility of this Local Development Authority at the district level to prepare an integrated plan of district development whose objectives will be:

- (a) to reduce the birth-rate to about half in a planned programme of 10-15 years;
- (b) to bring about a very rapid economic development of the local areas in such a manner that there would be a job for every young man or woman who enters the labour force and who decides to remain in the district (it may be assumed, by and large, that about 90 per cent of the children born in the district would remain within the district); and
- (c) to provide such education to the young boys and girls within the district as will qualify them to participate effectively in this programme of the economic development of the district.

In other words, the plan will reduce the birth-rate, develop economy and reconstruct education in such a manner that, as from a given date to be reached in 10-15 years time, there would be a job for every person in the labour force cohort of the district and there would also be a suitably trained person available for every job needed for the economic development of the area. It is true that what I am proposing here is a much wider programme of development which will need a more comprehensive set up for its administration. What I want to emphasize is that some such broader vision of the problem is inescapable and that the administrative problems of elementary education can be solved satisfactorily only against some such comprehensive background.

## IV

The second point to which I would like to invite your attention refers to a scientific approach to the problem of decentralisation. I find that, at present, 'decentralisation' has become a slogan - a device which is intrinsically accepted to be good. It is, therefore, a fashion at present to decry centralisation and to praise decentralisation to such an extent that a person who might venture even to whisper a word abainst it is immediately dubbed a philistine. A little careful study will, however, show that these attitudes are unscientific and irrational. Centralisation is neither inherently good nor bad and the same may be said of decentralisation. It all depends upon what you propose to centralise or to decentralise. Huxley defined 'dirt' as 'matter out of place'. Human dung, for instance, is 'dirt' in the drawing room; but it becomes the most invaluable fertilizer in the rice field. The same analogy is applicable to centralisation or decentralisation. It would be disastrous to decentralise the defence of India, and in the same way, it would be equally disastrous to centralise the administration of local sanitation. The real point at issue is, therefore, something different. We must find out the proper administrative level at which a given function can be performed most economically and efficiently and assigned to that level, irrespective of the fact whether such a decision would mean 'centralisation' or 'decentralisation' in comparison with the existing administrative practices.

On this basis, I carried out a small experiment regarding the administration of elementary education which you might find of some interest. The first step in the experiment was to prepare as complete a list as possible of the different things that have to be done in the administration of elementary education. What I started compiling this, I found, to my surprise, there there were

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as many as about a hundred different functions of administration all of which fell under the general category of the 'administration of elementary education'. I also found that the functions included in the list covered an extremely wide range of complexity - from such simple things as current repairs of the school building at one end to the extremely difficult problem of equalisation of educational opportunity between the different States, and Union Territories at the other. The general belief is that the administration of elementary education is a very simple matter which could be entrusted to any officer or any agency. This is far from correct and one has only to conduct an investigation of this type to realise how vast and complicated an area is covered under the innocent-looking phrase 'administration of elementary education'. I then sent round this list to about 100 persons including educationists, administrators, teachers, etc. and requested them to give their opinion, against each function included in the list, as to the level at which it may be performed with the greatest efficiency and economy. It found that, by almost universal agreement, a large number of functions came to be assigned to the local community or the village panchayat level. This included maintenance of school buildings, construction of school buildings (unless the work was very costly and complicated), provision of equipment (unless the equipment is costly or difficult to obtain), the provision and regular maintenance of school playgrounds, the provision of school farms, supply of free textbooks and writing materials to poor and needy children, provision of school meals, the celebration of school festivals and functions, arranging school excursions, enforcement of compulsory attendance, organising programmes to bring the school and the community together, providing residential accommodation for the teachers, elementary supervision over the local school and assistance to teachers,

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etc.. Quite a few functions were assigned to the district level. These included planning, recruitment of personnel, supervising construction of the bigger school buildings, provision of the costlier or difficult-to-get equipment, control over the services of teachers, raising local rates for the support of elementary education, supervision over the work of the school committees, especially at the local community or village panchayat level, organisation of health services, and payment of grants-in-aid to them, etc.

Some further functions were assigned to the State level. These included the preparation of textbooks, revising of curricula, training of teachers, preservice and inservice, supervision over the district authorities in charge of elementary education and payment of grants to them, legislation relating to elementary education, equalising educational opportunity between the different districts, etc. A few but very significant functions came to be allocated even to the Government of India. These included the equalisation of educational opportunity between different parts of the Union and the payment of grants-in-aid to State Governments and Union Territories for the development of elementary education. It will thus be seen that all authorities from the village level to the Government of India are involved in the administration of elementary education in some way or the other. It would, therefore, be wrong to talk of 'centralisation' or 'decentralisation' in this context because the administration of elementary education is ultimately the joint responsibility of all agencies. This is also, I may incidentally point out, implicit in our Constitution. Article 45 makes the 'State' responsible for the provision of compulsory and free education for all children till they reach the age of 14 and Article 12 defines the expression 'State' to include the Government and Parliament of India, the Governments



and Legislatures of each of the States, and all local or other authorities within the territory of India or under the control of the Government of India. I would, therefore, suggest that we should, in discussing this problem, talk more about the level to which each function in the administration of elementary education is to be assigned rather than in terms of the slogans of centralisation or decentralisation.

I may also incidentally point out that, in this study, hardly any important functions came to be assigned to the Block level. The major error of the Community Development programme, therefore, has been to entrust primary education to the Block rather than to the district level.

V

I shall now turn to the financial issues. Here the first question for decision or speculation is the amount that we are likely to need or be able to raise for programmes of elementary education. Taking the need-based approach first, I may say that we will need a recurring expenditure of about Rs. 100 per pupil at 1961 prices. This presumes an expenditure of Rs. 60 per pupil on account of 'teacher costs' (I have assumed an average salary of Rs. 2000 per teacher as against Rs. 932 in 1961 and a pupil-teacher ratio of 40 in enrolment or about 35-36 in average attendance). The balance of Rs. 40 would be needed for the non-teacher costs - buildings, equipment, school health services, free supply of textbooks and uniforms. At the end of the third Plan, the average cost per pupil is expected to be about Rs. 33 and hence the above proposal implies trebling of the recurring cost per pupil at constant prices. With regard to the capital costs, we shall need an expenditure of Rs. 200 per child - Rs. 100 for buildings and an equal sum for equipment. As provision will have to be made for about

120 million children for non-recurring expenditure (80 million of new enrolment in the next three plans and 40 million (out of a total enrolment of 60 million) for the backlog to be cleared at the end of the third plan), we shall need a sum of about Rs.24 billion spread over the next 15 years, or at the rate of about 1.6 billion per year which works out at about 16 per cent of the total recurring costs of elementary education in this period.

I must make it clear that even this huge sum is very meagre as compared to what is being spent on elementary education in U.K. or U.S.A. or any of the advanced countries of the West. This amount, however reasonable, seems to be ruled out from the practical point of view at our levels of national income. I would, therefore, personally prefer to hitch our wagon to a much lower star, say, Rs.70 per child per year in 1981. This would include an average salary of Rs.1800 per year for the elementary teacher and a pupil-teacher ratio of 40. The non-teacher costs would also be less - about Rs.20 per child per year so that the ancillary services would be provided only to the poor and the needy children (about 30 per cent of the total enrolment), rather than to all. The non-recurring costs on building and equipment would also be kept at the minimum - about 7 per cent of the total expenditure on elementary education, instead of about 16 per cent as in the previous estimate. Even on these conservative assumptions, the total amount required for elementary education in India by 1981 becomes fairly formidable. The latest forecast is that, in 1981, our population would increase to about 700 million and that the number of children in the age-group 6-14 would be about 140 million. Assuming 100 per cent enrolment and a cost of Rs. 70 per child per year, we shall need Rs.9,800 million for the recurring costs of elementary education. To this, we may add about Rs.700 million for

the capital costs so that we shall need a total expenditure of Rs. 10,500 million for elementary education in 1981. If we assume further that the total expenditure on elementary education would be about one-third of the total expenditure on education, the total educational expenditure in 1981 would be about Rs. 31,500 million or Rs. 45 per head of population. This will mean about 5 per cent of the national income, if the national dividend were to rise by then to Rs. 900 (as I hope it will) or 6 per cent of the national income if it were to rise to only Rs. 750. It is very difficult to make any definite assumption about the national dividend. But two things are very clear; unless we plan for a steep rise in the national dividend, we will not be able to put across any programme of educational reconstruction worth the name; and if we do succeed in implementing a good programme of educational reconstruction - of which what I am suggesting is an integral part - the national dividend is bound to rise very fast, faster than what we are inclined to believe at the moment on the basis of our past performance.

I shall first try to show that the level of expenditure I have thus projected is fairly reasonable. The total direct expenditure on elementary education in 1949-50 - the first year for which statistics for the entire country are available - was Rs 401 million and it rose to Rs 1164 million in 1961 and it is expected to increase to Rs. 2000 million in 1965-66. In this period of 16 years, the enrolments in elementary education are expected to increase from about 21 million to about 60 million (i.e. nearly trebled) and the cost per pupil has increased from Rs. 20.7 to about Rs. 33 (i.e. increased to about one and a half times). The total increase in expenditure has, therefore, been about five times, i.e. roughly about ten per cent per year. What I am proposing is that a similar development should take place in the next fifteen years. That is to say, the expenditure should

increase about five times - from Rs. 2000 million in 1965-66 to Rs. 10,500 million in 1980-81 - by increasing the enrolment from about 60 million to about 140 million (an increase to about two and a half times) and by about doubling the cost per pupil - from Rs. 33 to Rs. 70. As is to be expected, the increase in the cost per pupil is steeper in the next three plans than in the first three because of the great emphasis on quality and the rise in enrolments is less steep because the bulk of the expansion has been put behind in the first three plans. The effort has already been done once in the last 15 years and surely it is not too much to expect that a similar effort would be made in the next three plans also.

We must also remember that we spend too little on education at present and give too low a priority to elementary education. Even at the end of the third Plan, India will be spending only Rs. 5500 million on education, which will mean only about 3.1 per cent of the national income and only 36 per cent of this (instead of the recommended 50) would be devoted to elementary education. The advanced countries spend much more on education. For instance, U.K. spends 5.3 per cent of her national income on education; U.S.A. spends 6.2 per cent; Japan spends 5.9 per cent; and U.S.S.R. spends 7 per cent of her national income on education. If education is to develop on proper lines, the Sargent Plan had come to the reluctant conclusion that India 'will have to follow the practice of other countries and pay for it'. India must, therefore, be prepared to spend at least 5, and preferably 6 per cent of her national income on education and devote about 33 per cent of it to elementary education. This is all that my proposals visualise and they also provide a reasonable period - fifteen years - in which to reach the goal.\*

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\*For details, please see my paper on a Perspective Plan for the Development of Elementary Education in India (1966-81) in Annexure II - J.P.Naik.

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This takes me to the next issue: how and at what level is this huge amount to be raised? In this context, I would like to invite your attention to a curious paradox in the administration of elementary education: the responsibility for its day-to-day administration has to be decentralised while that of its financial support has to be centralised. The reasons for the decentralisation of the administration are the ease, economy and efficiency with which administrative responsibilities can be discharged at lower levels as I have shown earlier. On the other hand, there are two very cogent reasons for centralisation of financial support: the larger financial capacity we find at higher levels and the need for equalisation. The case for the first argument is easily established. The ability to raise revenues is least at the local level, greater at the State level and greatest at the Central level; and consequently the cause of elementary education - which needs large expenditure - has always suffered whenever the financial responsibility for it was focussed at lower levels - local or even State - and prospered when the State, and especially the Centre, took a keener interest. The case for the second reason - equalisation - is not so obvious and needs some explanation. It will be readily granted that, in elementary education, whose chief objective is social justice, it is essential to maintain a fairly equitable standard of elementary education in all parts of the country and for children in all strata of society. But this should be done only through a centralisation of financial responsibility. For instance, the local community has to assume financial responsibility for elementary education because it is only through this support that equality of educational opportunity can be provided to all the families within the local community - rich or poor. But local communities also differ in their economic status - some are

rich while others are poor. The State has, therefore, to step in and through its grant-in-aid - which should be larger to the poorer communities and smaller to the richer ones - equalise educational opportunity at the local community level. But the States also differ widely in the size and type of problems they have to face and in their ability to support education. So the Centre has to come in with equalisation grants which will ensure that an equitable standard of this basic social service would be maintained in all parts of the country. On both these counts, therefore, the responsibility for the financial support of elementary education has to be centralised.

How then do we resolve this paradox which needs 'decentralisation' in administration with 'centralisation' of financial responsibility? The only answer is an adequate system of grant-in-aid from the Centre to the States and from the States to the local bodies, based on the principle of equalisation. It is mainly because of our failure to create such a system that elementary education does not make satisfactory progress. I, therefore, feel very strongly that this problem should be examined by experts at the highest level and a satisfactory solution found for it before the fourth Plan starts.

I would very briefly put forward my own proposals on the subject. If the total expenditure on elementary education is Rs. 100, about Rs. 70 out of this would be the salaries and allowances of teachers and Rs. 30, the non-teacher costs. At present, this proportion is 89 to 11, but in view of the proposal to provide better physical facilities and ancillary services, I am assuming this modified proportion. What I propose briefly is this system: (1) the Centre should give a grant-in-aid to States, on a 50 per cent basis for all costs on teachers (including supervision and training); and (2) the States should give grants to local bodies or

communities, also on a 50 per cent basis, for all non-teacher costs. In the final analysis, therefore, the Centre would bear 35 per cent, the States 50 per cent, and the local bodies 15 per cent of the total expenditure on education. A similar system exists in Japan and it is probably the best model that suits our conditions.

The advantages of this proposal are obvious. By linking Central aid to salaries and allowances of teachers, we take the best step possible, to assure a reasonable remuneration to teachers and thereby to improve the quality of teachers and ultimately, the quality of education itself. Secondly, it will also raise the maximum of local support possible for elementary education by interesting the local community directly in the administration of non-teacher costs and programmes. We may also modify this proposal further by introducing the concept of equalisation and fixing the Central grant to States in such a way that, although the average grant for the country as a whole would be 50 per cent, the richer States would get proportionately less and the poorer States, proportionately more than 50 per cent\*. A similar basis of equalisation could also be easily extended to the State grants to the local bodies.

## VI

If the proposals made by me so far are accepted, we would have done three great things: to create a proper and decentralised system of administration; to raise all the resources needed for elementary education - about Rs. 15 per capita of population by 1981; and to evolve a proper system of grant-in-aid which would ensure that adequate amounts are available at each level of administration to enable it to discharge its responsibilities adequately. But the car

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\*A self-contained paper on the subject prepared by me in collaboration with Dr. E.S. Lawler is given in Annexure III - J.P.Naik.

of elementary education runs on four wheels - not three - and the fourth wheel, the motivation of the human factory, is probably the most important of all. Better education does need more investment and more physical resources, no doubt. But it needs human efforts even more - the combined efforts of the officers of the Education Department, the teachers, the students and the parents. Today, there is a tendency for each of these human agencies to work less and less, both in quantity and in quality, and to demand more of financial investment and physical facilities on the ground that these are inescapable for better education. The fallacy of this trend is obvious and an attempt should be made in the fourth Plan to organise a nation-wide programme of educational improvement at all stages - from the elementary to the university - by trying to motivate human agencies concerned to a more intensive and a better planned endeavour and this movement should be kept up in the two subsequent plans as well. The basic assumptions underlying such an important programme may be stated somewhat as follows:-

(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; (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 secure 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 educational institution, 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 institution. In fact, one of the primary objectives of the movement would be to try to provide better physical resources to educational institutions through the combined efforts of the State and the community. But what is emphasized is the possibility of improving the educational programme, through better planning and harder work, in spite of the deficiencies in physical resources.

(3) To obtain the best results in the improvement programme, it is essential to regard each institution 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 the Department with the specific objective of providing the best possible programme of education to each child enrolled.

(4) The secret of the success of the improvement programme lies in two things: (a) intelligent planning, and (b) continuity of effort which should animate all activities, 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 those programmes can hope to succeed which under-accent 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 improvement programme aims to

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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 could be organised on an intensive basis in the next fifteen years, side by side with an increase in financial outlay, the ultimate goal will be achieved more quickly.

The Grand Old Man of India, Dadabhai Naoroji, submitted a Note to the Indian Education Commission, on 16th September 1882, pleading for the introduction of universal elementary education in India. That dream of this great man is unrealised even to this day. I have shown, however, that, given a proper plan and an intensive effort, it is possible to translate it into reality by 1981 - the end of the sixth Plan. May, I, therefore, conclude this series of lectures in the hope that, when we celebrate the centenary of this note in 1982, free and compulsory elementary education of good quality would have been provided for every child in the age-group 6-14?

A Perspective Plan for the Development of Elementary Education in India

Article 45 of the Constitution visualised that free and compulsory education for all children till the age of 14 would be provided by 1960. This goal could not be reached, although there was unprecedented expansion of elementary education between 1950 and 1960. The Educational Panel appointed by the Planning Commission, which met at Poona in 1957, examined this problem and suggested that the goal of providing free and compulsory education for all children in the agegroup 6-14 should be divided into two stages. In the first stage, which was to be completed by the end of the third Plan, free and compulsory education should be provided for all children in the age-group 6-11; and in the second, which was to be completed by the end of the fifth Plan at the latest, compulsory education should be extended to the age-group 11-14. It may be pointed out, however, that even these conservative targets may not be reached. The third Five Year Plan visualises the enrolment of only 76.4 per cent of the children in the age-group 6-11 and even the revised targets of enrolment in this group is only 80 per cent. It thus appears that, only by the end of the fifth Plan, we shall be able to enrol all children in the age-group of 6-11 and that universal education may be provided for all children in the age-group of 6-14, probably by the end of the tenth Plan.

The people of India have been demanding an early introduction of universal, free and compulsory education for all children till the age of 14; and the unfortunate position today is that it has not been possible for us to adhere to any schedule for reaching this goal. There is, therefore, a great public demand to the effect that the Government of India and the States should prepare a phased programme of expansion and improvement of elementary education with the ultimate object of providing free and compulsory education

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for all children as early as possible. Unless such a programme is carefully drawn up, it will not be possible to outline the development of elementary education that could be attempted even in the fourth Five Year Plan for which preparations are now under way. In this Chapter, therefore, it is proposed to discuss the broad outline of a possible programme for the development of elementary education in India during the next 15 years.

Magnitude of the Task:

The total population of India, according to the census of 1961, was 439 million and it is increasing at present at about 2.2 percent per annum. Various estimates of the growth of population in India during the next 20 years have been made and, depending upon their underlying assumptions, they show considerable variation. But probably one which might come nearest the truth is the medium-size projection prepared by an expert group appointed by the Registrar-General of India. According to this projection, the population of India would be           million in 1966,           million in 1971, and           million in 1976 and           million in 1981. At first sight, one may be inclined to regard this as an over-estimate; but our past experience has been that the actual census counts of population are always higher than the highest estimates. It may, therefore, well be that even these estimates may ultimately prove to be on the low side. We shall, however, assume them as the basis of this Plan as the best data available at present.

As in all other developing countries, the proportion of children to the total population in India is much larger than in the advanced countries of the world. Consider, for example, the following estimates:-

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Table No. I - Estimated Number of Children in  
Some Selected Countries  
(in thousands)

Country and year of statistics	Age-group	Total Population	Number of children in the age-group	Percentage of (4) to (3)
1	2	3	4	5
Sweden (1958)	5-14	7,415	1,196	16.1
U.K. (b) (1958)	5-14	45,244	6,933(a)	15.3
India (1961)	6-14	438,000	83,780	19.1

N.B. The population data has been taken from U.N. Statistical Yearbook, 1959.

The population in the age-group 5-14 has been taken from Unesco: Basic Facts and Figures 1960.

(a) Data for 1957

(b) Data for England and Wales only.

It will be seen that India has proportionately more children in the age-group 6-14 than the advanced countries have in the large age-group of 5-14. The paradox of the situation, therefore, is that the richer countries have more resources and fewer children to educate; while the poorer countries have fewer resources and a large number of children to be educated. This uneven balance between the resources available and the number of children to be educated diminishes as the birth-rate falls and the general economic conditions improve; and a similar development will take place ultimately in India also. But in the immediate future, we shall have to proceed on the assumption that elementary education will have to be provided to a proportionately greater number of children with comparatively smaller financial resources.

Estimates have also been made of the total number of children in the age-group 6-14 in India during the next 15 years and these are given in the following table:-

Table No. II - Estimated number of children in the age-group 6-14 (1961-76)

Year	Age-group 6-11		Age-group 11-14		Age-group 6-14	
	No. of children (in millions)	Percentage to total population	Total No. of children (in millions)	Percentage to total population	Total No. of Children (in millions)	Percentage to total population
1961	56.14	12.8	27.64	6.3	83.78	19.1
1966	64.74	13.2	31.14	6.9	98.88	20.1
1971	73.35	13.2	39.00	7.00	112.35	20.2
1976	80.33	12.8	42.67	6.8	123.00	19.6
1981						

At the end of the third Five Year Plan, the total enrolment in classes I-V (which is assumed to correspond to the age-group 6-11) is expected to be about 50 million, and that in classes VI-VIII (which is assumed to correspond to the age-group 11-14) is estimated to be about 10 million. The total enrolment in classes I-VIII, at the end of the third Five Year Plan, would thus be about 60 million which would roughly correspond to about 62 percent of the total population in the age-group 6-14.

The magnitude of the task that will have to be attempted can be seen from the difference between the enrolment anticipated at the end of the third Five Year Plan and the total number of children that will have to be ultimately enrolled, depending upon the target date for reaching the objective. If free and compulsory education is to be provided to all children in the age-group 6-14 by 1971, the additional enrolment during the fourth Five Year Plan would have to be 52.35 million or roughly about 10.47 million per year, as against the highest increase of about 4 million we have been able to achieve so far. If the target date for reaching this goal is to be postponed to 1976, the additional enrolment during the fourth and the fifth Five Year Plans would have to be 63 million. This works out at an annual increase of 6.3 million, which is about 60 percent higher than the highest annual increase we have been able to achieve in the past. If this date were to be still further postponed to 1981, the additional enrolment during the fourth,

fifth and sixth Plans would have to be about 81 million which works out at an annual increase of 5.4 million. Lastly, if one were to assume, as proposed by the Sargent Plan, that this target would be reached by 1985, the total additional enrolment during the fourth, fifth, sixth and the seventh Plans will have to be about 105 million which works out at an annual increase of 5.2 million. The most difficult and the most ambitious target would be to enrol all children in the age-group 6-14 by 1971 and comparatively the least difficult would be to reach the goal by 1985. The planners of education in India will, therefore, have to decide on one or the other of these target dates for preparing a phased programme for the development of elementary education in the country.

Decision on Targets:

Which of these three target dates should be selected? The decision depends upon a number of important considerations. First is the question of overall priority. The conviction is strongly held by some people that the provision of universal and free elementary education to all children is essentially a programme of social justice, of providing equality of educational opportunity, and of laying the basic foundations of democracy. They would, therefore, accord this programme an over-riding priority over any other programme in education and over several other programmes in the Plan as a whole. These thinkers would, therefore, prefer to provide free and compulsory education for all children in the age-group 6-14 by 1971, or if that were not possible, by 1975 at the latest. On the other hand, there are some who believe that other sectors of education, e.g., technical education, secondary education, higher education etc. need a higher priority and that the programme of expanding elementary education could be slowed down after an enrolment of about 70-75 percent in the age-group 6-11

is reached. As this position would be reached at the end of the third Five Year Plan, they argue that we need not emphasize further expansion of elementary education during the fourth and the fifth Five Year Plans. According to them, it would be better to realise the goal of providing free and compulsory education for all children in the age-group 6-14 by 1985, as recommended by the Sargent Plan.

The controversy about quality versus quantity also comes into the picture at this stage. The earlier we place the target date, the larger will be the number of additional children to be enrolled every year and the less will be the available funds for qualitative improvement of elementary education. These thinkers, who emphasize quality, therefore, would prefer to postpone the target date while those who emphasize quantity would tend to place it nearer.

An important consideration is financial. Expansion and improvement of elementary education is very costly and increases the recurring liability to Government to a considerable extent. In fixing the target date for the provision of free and compulsory education for all children in the age-group 6-14, therefore, one has also to take into consideration the large finances involved. For instance, if the target date is fixed as 1971, we will have to enrol ~~52 million~~ additional children during the fourth Plan and the minimum cost on this account would be Rs.6,240 million during the Plan period. If it is remembered that the total allocation for elementary education during the third Five Year Plan period was only Rs.2,090 million, the magnitude of the task becomes evident. On the other hand, if the target date is fixed later, the additional expenditure to be incurred on the development of elementary education becomes less and more manageable. After all is said and done, the resources likely to be available for educational development



during the fourth and fifth Five Year Plans will have to meet several conflicting demands from a number of other programmes. The development of elementary education, therefore, is not likely to get an allocation of resources which might make it possible to bring the target date very near. Besides, any over-riding priority given to elementary education is likely to distort, not only the deserving priorities of other sectors in education, but also the due priorities of other important sectors in social or economic development. This may not also be in the best interests of the country. All things considered, it may be desirable, on financial grounds, to follow the middle course in preparing programmes for the development of elementary education.

It must also be pointed out that even if the highest priority is accorded to the development of elementary education and even if all the resources necessary are made available, it may still not be possible to enrol every child in the age-group 6-14 by 1971 or even by 1975. This is because the problem of universal education is not merely financial. A number of social, cultural and economic considerations are involved and some of these have been indicated below.

(a) Education of Girls: In the expansion achieved so far in the age-group 6-11, it was the enrolment of boys with which we were mostly concerned. By 1966, the vast majority of the boys in this age-group would have been enrolled in schools and, in later years, the additional enrolment to be attempted will consist largely of girls. For instance, in the additional enrolment expected between 1966 and 1975 on the basis of 100 per cent enrolment in the age-group 6-14, the number of boys would be about 26 million and the number of girls would be about 38 million. This is a far more difficult problem and would call for (1) an intensive

educative propaganda to overcome traditional resistance to the education of girls and to popularise co-education as well and (2) the preparation and employment of women teachers in far larger numbers especially in rural areas. The dimension, in this case, is more social than financial.

(b) Expansion in Backward States: So far, the largest contribution to the total expansion of education at the elementary stage was made by the more advanced States which, by 1966, would have come much nearer to ultimate goal. In later years, therefore, the advanced States will play a minor role in the programme and the main burden of expansion will fall on the less advanced States. For instance, about 29 per cent of the non-attending children in the country as a whole will be in U.P. alone at the end of the third Plan. This single State will, therefore, have to put in an effort equal to one-fourth of the effort in the country as a whole. A major part of the expansion contemplated beyond 1966 will thus have to be attempted in the less advanced States which are poorer and obviously less equipped for the task. The problem here assumes another dimension altogether and raises difficult and complex issues regarding the responsibility of the Government of India for securing equalisation of educational opportunity in all parts of the country and of special Central assistance to backward States.

(c) Expansion Among Poorer and More Backward Sections of Society: The expansion of elementary education achieved so far has, in the main, covered cities, towns and bigger habitations. In future, we shall be called upon to expand education in difficult or inaccessible forest areas, among the scheduled castes and scheduled tribes, among the poorest or destitute sections of society, in small hamlets of less than 200 persons and in several difficult situations such

as those involved in the education of nomads. We shall be called upon to face the problem of handicapped or delinquent children on an appreciable scale. In all those areas, the problem ceases to be purely financial and several other factors - social, economic and human - come into play. Programmes like mid-day meals, free uniforms and free textbooks will have to be given greater weight, if children from the poorest and almost destitute classes are to be enrolled.

(d) Expansion in classes VI-VIII or in the Age-group 11-14: So far, the bulk of the expansion that has taken place was in classes I-V or in the age-group 6-11. By 1961, about 61 per cent of the children in the age-group 6-11 had been enrolled and by 1966, this enrolment will rise to 80 per cent. It will not be very difficult to raise this enrolment to 90 per cent by 1971 and to 100 per cent by 1975. The main task to be attempted between 1966 and 1981, therefore, is to increase the enrolment in classes VI-VIII. This was 9 per cent in 1946-47. It rose to 13 per cent in 1950-51, to 17 per cent in 1955-56, to 23 per cent in 1960-61, and is expected to rise to 32 per cent in 1965-66. To increase this enrolment from 32 per cent in 1966 to 100 per cent in 1971 does not appear feasible and to do so even by 1975 will require large scale effort and an unorthodox approach. Here again the problem ceases to be merely financial. Social, administrative and educational issues come to the forefront and the main problems to be tackled are two: (1) How can we reduce wastage and stagnation and see that most of the children who enter class I also reach class VIII; and (2) how can we enroll all the children in the age-group of 11-14 in spite of the fact that they are wanted at home for some work or the other?

(e) Qualitative Improvement: So far, the programme has been mainly quantitative and the question of qualitative improvement was regarded secondary. In future, a stage will soon have been reached where no further expansion is possible (except that due to sheer increase in population) unless wastage is reduced or, in other words, the power of the schools to attract and hold the children is substantially increased which is essentially a programme of qualitative improvement! The usual assumption is that qualitative programmes would be taken up after the period of qualitative expansion is over. But at the stage which will be reached in the fourth plan, qualitative and quantitative programmes will have to interpenetrate. The problem again ceases to be purely financial and will have to be tackled mainly in terms of the preparation and employment of thousands of competent, devoted and enthusiastic teachers who are willing to give their best to the community.

Keeping these considerations in mind, let us examine the pros and cons of the possible target dates for fulfilling the Directive of Article 45 of the Constitution.

(2) Assumption No.1: Fulfilling the Directive of Article 45 of the Constitution by 1985: The Report of the Central Advisory Board of Education on "Post-War Educational Development in India" (popularly known as the Sargent Plan) had estimated that a period of about 40 years would be needed to provide universal education for all children in the age-group 6-14. As the Sargent Report was finalised in 1944, it may be assumed that, according to the Plan, the target could be reached by 1985. It was shown earlier that this will imply an additional enrolment of about 50 million children every year (40 million in the age-group 6-11 and 10 million in the

age-group 11-14 which is almost the rate of expansion reached at the end of the third Plan. In other words, the fulfilment of the Constitutional Directive by 1985 would only call for the stabilisation, for a period of 20 years, of the rate of expansion reached by the end of the third Plan. The proposal has the additional advantage of providing for some breathing time for consolidation and for making available a large part of the resources for qualitative improvement. There is a good deal in the proposal to commend itself.

(3) Assumption No. II: Fulfilling the Directive of Article 45 of the Constitution by 1980: An alternative assumption for the target will be to fulfil the Directive of Article 45 of the Constitution by 1980. This will involve an additional provision of 81 million seats at the elementary stage in a period of 15 years or an increase of 5.4 million seats per year. This is only a little more than the estimated rate of expansion at the end of the third Plan. Under this proposal, the funds needed for expansion programmes would be somewhat larger than under Assumption No. I and the funds available for programmes of qualitative improvement would be correspondingly less. It will, therefore, call for a somewhat larger effort than that involved in Assumption I. But the difference is so small that one may as well adopt the target date of 1980 on emotional and psychological grounds.

(4) Assumption No. III: Fulfilling the Directive of Article 45 of the Constitution by 1975: A more ambitious programme would be to try to provide free and compulsory education for all children in the age-group 6-14 by 1975. Under this assumption, the total provision of school places in classes I to VIII would have to be increased to about 120 million (which is the anticipated population in the age group 6-14) in a period of ten years following

the third Plan. This involves an increase in the available school places in classes I to VIII by about 60 million in a period of 10 years or at the average rate of 6 million places per annum. The achievement of this target will of course involve a stupendous effort, but is possible, especially if a large-scale programme of part-time education is adopted for the age-group 11-14. Its main advantage is emotional and psychological; but it will imply a very steep increase in outlays and a slowing down of the programmes for qualitative improvement to a substantial extent.

(i) Assumption No. IV: Fulfilling the Directive of Article 45 of the Constitution by 1971: In view of the importance of the problem as well as of the keen desire of the people, a question is often asked whether it would be possible to provide free and compulsory education for all children in the age-group 6-14 by 1971. This does not appear to be a feasible target. The population of children in the age-group 6-14 by 1971 will be 112 million and if free and compulsory education is to be provided for all of them, we shall have to increase the facilities for elementary education by 52 million places in a period of five years which implies a rate of expansion that is about  $2\frac{1}{2}$  times the rate of expansion reached during the third Plan and this is just impossible on social, cultural, economic and administrative grounds. Even if the proposition were administratively practicable, the expenditure on elementary education would increase so rapidly during this period of five years that it would immediately jeopardise the development of education in the other fields which may not be in the larger interests of the country. All things considered, the possibility of fulfilling the directive of

Article 45 of the Constitution by 1971 or, in fact, by any date prior to 1975 has to be ruled out.

It will thus be seen that the most feasible target date for fulfilling the directive of Article 45 of the Constitution is 1980-81. But for convenience of studying the problem from every point of view before a final decision is taken, we shall work out the details of all the first three assumptions which are practicable but whose implications are different.

Since population estimates are more reliable till 1975-76, it would be more accurate and useful if these assumptions are broken down in terms of the targets to be reached by 1975-76. This has been done below:-

<u>Assumption regarding Target Date for fulfilling Article 45 of the Constitution</u>	<u>Enrolment Targets to be reached by 1975-76</u>
I. 1985-86	100 per cent enrolment in the age-group 6-11 and 50 per cent enrolment in the age-group 11-14.
II. 1980-81	100 per cent enrolment in the age-group 6-11 and 75 per cent enrolment in the age group 11-14
III 1975-76	100 per cent enrolment in the age-group 6-11 and also 100 per cent enrolment in the age-group 11-14.

It is on these modified assumptions that the detailed implications of the above target dates have been worked out in the sections that follow.

Phases of the Programme:

In planning a programme of phased development for providing free and compulsory education for all children

in the age-group 6-14 in India, a study of the history of the development of elementary education in the advanced countries of the world is of great use. It shows that a country generally advances towards the goal of universal education in three distinct phases:-

(a) Universality of Provision: The first phase of the programme is to provide an elementary school within easy walking distance from the home of every child. This enables every parent who so desires to send his children to school. This phase is the simplest, although it has its own problems.

(b) Universality of Enrolment: It must be remembered that expansion of elementary education ultimately consists of two processes - to enrol all children of the prescribed age (i.e. 6-7 in India) in class I and then to retain them at school till they complete the prescribed age (14 years) or course (classes I-VIII). The first of these processes necessitates the formation of the right initial cohort in class I. Here the ultimate target is to enrol every child of 6-7 in class I so that the vast majority of children in class I (say, about 90 per cent) comes to consist of children of the age-group 6-7 only. The remaining seats will be taken up by a few children of the lower age-group who may be permitted to join under certain circumstances, and of a few older children in the age-group 7-8 who may have escaped enrolment when they were 6 plus. As soon as every child, or almost every child in the age-group 6-7 is enrolled in class I (or in any higher class to which he may be found fit for admission), the target of universal enrolment may be said to have been reached.

(c) Universality of Retention: The third phase of the programme of universal education is to see that every child,



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which is enrolled in a school, does not leave it until it completes the entire elementary course of education or completes the prescribed upper age-limit of 14. When children come from well-to-do families or families which appreciate the value of education, there is no problem of premature withdrawal. The average duration of schooling for every child in such a situation is equal to the duration of the entire elementary course, i.e., eight years. But when children from poorer communities or from families which do not appreciate the value of education to the extent necessary are enrolled in schools, there is a strong parental tendency to withdraw them as soon as they become old enough to assist in some work in the family or outside it and thereby earn some money, however little, towards their maintenance. It is due to this premature withdrawal that the average duration of school life for these children is so short - between 2 to 4 years only! The lengthening of this average duration to 7 or 8 years is the main problem to be tackled in this stage and is equivalent to the reduction of wastage.

The first of these three phases would have been almost completed at the end of the third Five Year Plan; and even if some of the work necessary for completing this phase is left unfinished, it could be easily completed in the fourth Five Year Plan. With regard to the second phase also, a good deal of ground would have been covered at the end of the third Five Year Plan and the task left over for future years would be in the sector of the enrolment of (1) girls, (2) children from the backward classes and from very poor families, and (3) handicapped children. The main task to be attempted beyond the third Five Year Plan, therefore, is the third phase, viz., the reduction of wastage and stagnation. At present, out of every 100 children

that enter class I, only about 20 reach class VIII at present. This number will have to be increased at least to 80 and this is essentially a qualitative programme on which the greatest concentration of effort will have to be made in the next three Plans.

The Problem of Teachers:

If this shift to qualitative improvement is to take place in the fourth Five Year Plan and is to be continuously emphasized during the next 10-15 years, the improvement of the elementary school teacher will have to be given the highest priority. The teacher holds the key position in education and it is upon his competence and sense of duty that the standards of education will ultimately depend. We will, therefore, have to concentrate upon improving the general education and professional training of elementary school teachers and provide them with satisfactory conditions of service essential to efficient functioning.

A: General Education: What should be the minimum general education expected of elementary school teachers? The policy recommended by the Government of India is that the matriculation should be the minimum qualification in general education for elementary school teachers. By and large, this recommendation has been accepted by the State Governments and during the last 12 years, the percentage of matriculate teachers at the elementary stage is increasing steadily; it was 12.59 in 1949-50 and has increased to 39 in 1960-61. The recruitment of matriculate teachers, however, is increasing still more rapidly. In some States, only matriculate teachers are recruited; in some others, preference is given to matriculates, in spite of a lower minimum qualification prescribed; and it is only in a few States that a proportion of the total posts

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available are reserved for non-matriculate teachers as a measure of economy (non-matriculate teacher has a lower scale of pay). In 1950-51, the total number of matriculates recruited was about 54 per cent of the total recruitment. At present, about 75 per cent of all new recruitment is that of matriculates only. In fact, the average elementary school teacher now recruited is a matriculate except in three cases: (1) women teachers, especially for rural areas; (2) teachers for tribal areas; and (3) teacher for posts reserved for non-matriculates. Since an improvement in the general education of elementary teachers is imperative, it is suggested that the State Governments should fix a deadline beyond which the recruitment of non-matriculate teachers should be stopped altogether, and that this deadline should not go beyond 1971 in any area. In the meanwhile, intensive efforts should be made to prepare women teachers or teachers for tribal areas in sufficient numbers in order that the need to relax the minimum qualifications prescribed does not, as far as possible, arise.

There is also another point to be remembered in this context. The number of graduate teachers working at the elementary stage has been consistently increasing. In 1949-50, the total number of graduates working at the elementary stage was only 5,514; but by 1960-61, it has increased to about 20,000. Owing to the rapid expansion of collegiate education on the one hand and the improvement of scales of pay of elementary teachers on the other, it is expected that the employment of graduates at the elementary stage will increase still more rapidly during the next 10-15 years. This is to be welcomed and encouraged as an important means of raising standards. It is, therefore,

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suggested that every encouragement should be given for the employment of trained graduates at the elementary stage and that the target to be reached by 1980 should be that every primary school with more than 200 children should have a trained graduate as its headmaster and that every primary school with more than 500 children should have the headmaster as well as the assistant headmaster as trained graduates. At the middle school stage, the headmasters should necessarily be graduates and as large a proportion of the other teachers as possible, not being less than 25 per cent, should also be graduates.

If one were to consider the expansion of general secondary and collegiate education that is likely to take place during the next 10-15 years, the output of matriculates and graduates would certainly be large enough to provide the necessary number of teachers required to implement the recommendations made above. The only action that needs to be taken to achieve these targets is to bring about a substantial improvement in the remuneration of elementary teachers so as to attract them to the profession.

B. Professional Training: The expansion and improvement of the existing programmes of professional training of elementary teachers is another programme on which great emphasis will have to be placed during the fourth Five Year Plan. This problem has been recently examined by the Study Group on the Training of Elementary Teachers in India which has made the following significant recommendations:-

(1) There is at present a great backlog of untrained teachers in almost all the States. It has been estimated that, by 1965-66, the total number of elementary teachers in position would be 1.626 million and that, as many as 406,500 of these would be untrained. Each State should, therefore, fix a target

date, not later than 1971 in any case, by which this backlog would be cleared. This could be done by providing (a) a short refresher in-service training course of about 5-6 months for those teachers who are above 35 years of age and have already put in about 10-15 years of service; (b) by providing a short- pre-service training programme of one year only to all teachers who are below the age of 35 and have put in not less than 5 years of service; and (c) by providing full-time training only to those untrained teachers who are below 35 years of age and have not put in more than 5 years of service. The costs and the time required for clearing the backlog would thus be reduced very considerably without affecting efficiency.

(2) Each State should estimate its own requirements of additional teachers during the next 10-15 years as accurately as possible. In preparing these estimates, note should be taken, not only of the additional teachers required for new enrolment, but also of the teachers required for replacement in the existing ranks, due to such causes as deaths or desertions. The training facilities in each State should then be so expanded as to create an annual output which would meet the additional demand for teachers completely. The necessity to recruit untrained teachers would thus disappear and one of the major causes which now leads to inefficiency in teaching would be eliminated.

(3) The quality of training programmes will have to be considerably improved by adoption of the following measures amongst others:-

(a) The duration of the training course should be increased to a minimum of two years for matriculates and

those who have passed the higher secondary course. It should be at least three years (which may be broken up into two periods of two years and one year each) for non-matriculates. For graduates joining the elementary schools, a course of one year's duration, specially oriented to teaching at the elementary stage should do.

(b) The status of the average training institutions for elementary teachers is very low at present, such institutions being generally equated to secondary schools. Although this might have had some justification when the average elementary school teacher was only middle-passed, it is an anachronism now when the vast majority of recruits to the profession are matriculates. It is necessary to upgrade these institutions to the status of under-graduate institutions. The reform will make it possible to give better scales of pay to teacher-educators and to improve their academic and professional qualifications.

(c) The average teacher educator of today has been trained in an institution meant essentially for a secondary school and, more often than not, his previous background and experience have also been those of secondary education. That there is no programme for his in-service education makes him even less suitable for his job. There is a real need for courses of pre-service training for teacher educators for elementary teacher training institutions to be organised at the M.Ed. and B.Ed. levels. In addition to these, there have to be special arrangements in every State for providing in-service training to teacher educators, at the rate of about three months' in-service training to every five years of service.

(d) The existing curricula have to be revised and more appropriate teaching methods to be developed.

(e) The physical plant of the existing training institutions leaves a good deal to be desired. It is necessary to prepare a blue-print of a model training institution for elementary teachers and to indicate its needs in terms of land, buildings, hostels, classrooms, staff quarters, library, laboratory, teaching equipment, craft sheds and equipment for craft teaching, etc. An attempt has to be made to see that all the existing institutions are provided with a good physical plant on the lines of this blue-print within a prescribed period; care is also to be taken to see that all the new institutions that are proposed to be established conform to the prescribed specifications. Any economy to water down the standard specifications of training institutions will prove false in the long run and seriously affect the quality of education in elementary schools.

(f) Training of teachers can never <sup>be</sup> developed in isolation. It has to be integrated with educational research in the development of improved techniques of teaching and the provision of extension services to elementary schools. No attempt has been made so far in this direction. It is vital to develop research and extension wings in training institutions.

C: Remuneration and Other Service Conditions: The remuneration of teachers will also have to be considerably improved. At the end of the third Five Year Plan, the average annual salary of an elementary school teacher is expected to be Rs. 1000. It may be pointed out that this is the overall average, with considerable variations from State to State.

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If teachers of a better quality are to be obtained and standards of their general education and professional training have to be improved, as indicated above, the existing scales of pay will have to be considerably upgraded. A reasonable target to be adopted in this regard would be to double the average salary by 1981. This increase is a little higher than the increase that would take place in the national income per capita; but it would make up for the comparatively low salaries that are being paid to elementary teachers at present and place them on some kind of a parity with that of the other Government servants with similar qualifications and responsibilities.

There are two other aspects of the problem of remuneration of elementary school teachers. The first of these is that of providing a good system of old-age provision. It is felt that teachers of all categories whatsoever, irrespective of the type of management under which they work, should be given the same old-age provision as is given to Government servants, i.e. pension at 3/8ths of the retiring salary plus a gratuity according to rules. The second is the question of opportunities to elementary teachers for promotion to higher cadres. Such opportunities are even more effective than improved salary scales in attracting competent persons to the profession. Barring a few States like Maharashtra or Gujarat, no other State in India at present offers any avenues for promotion to elementary teachers. It is suggested that distinguished elementary school teachers should be ~~eligible for promotion~~ as (1) ~~teacher educators~~, and (2) supervisors of elementary schools. This suggestion has no financial implications, but



can go far in attracting competent persons to the profession.

Pupil-Teacher Ratio:

For the purpose of a perspective plan, it is essential to estimate the number of teachers required, to meet the needs of expansion as well as of replacement. This can be done only if a definite decision is taken regarding the pupil-teacher ratio to be adopted.

Unfortunately, this is one of the most controversial areas in elementary education at present. There are two distinct schools of thought. According to one, the pupil-teacher ratio should be as low as possible and preferably 30:1. According to the other, a high pupil-teacher ratio is inescapable in the present situation in India and that the existing pupil-teacher ratio of 34:1 should be deliberately raised, during the next five years, to 50:1. The main argument in favour of the smaller pupil-teacher ratio is that it will lead to qualitative improvement, whereas the main argument in respect of the larger pupil-teacher ratio is that it will enable us to provide a higher remuneration to teachers without affecting the pace of expansion.

In this context, the problem of the introduction of the double shift system becomes very significant. Those who support a larger pupil-teacher ratio recommend the adoption of the double shift system at the primary stage, or at any rate in classes I and II. The adoption of the double shift-system will obviously increase the overall pupil-teacher ratio. Opposition to this proposal is quite strong, on the grounds that it introduces inequalities, the teachers having double-shift classes have to work harder without any additional remuneration; that it lowers standards. A suitable compensatory allowance to teachers,

who have to handle two shifts seems to be obviously justified and will meet the first objection. But the alleged adverse effect of the shift system on standards of achievement needs detailed examination. The following points deserve consideration in this context: (i) The time for which children are kept in schools in class I (or sometimes classes I and II) should always <sup>be</sup> less than that for the other classes. It is a mistake to keep young children at school for as long as six hours a day. Three to four hours of instruction is all that they need at this stage. (ii) Studies have been made in some places where the double-shift system has been in operation. They show that there is no significant difference in the learning of children who attended for 3 to 4 hours a day and those who spend 5 to 6 hours a day, if instruction is properly organised.

If the pupil-teacher ratio is to be raised without adopting the double-shift system, a larger class-size will have to be adopted. At present, the class-size is generally fixed at 40 and this may have to be raised to 50 or even 60. Even here, however, the same controversies are in evidence. One group of thinkers will not agree to a class-size of more than 40 which, in the last analysis, will give an average pupil-teacher ratio of about 30. The other group of thinkers proposes the adoption of class-size with a minimum of 50 pupils and a maximum of 60 pupils. If these suggestions are adopted, the overall pupil-teacher ratio may rise to 40, 45, or even 50. In this context, it may be pointed out that there is no special sanctity for any particular class-size. What matters is the methods of teaching and organisation to be adopted. There are certain methods of organisation and teaching which can be used only if the total size of the class is small, while there are others which can be used

in classes of a larger size. If the proper techniques are adopted, it is possible to obtain better results even with a larger class than in a small class where the techniques employed are relatively unsatisfactory. Moreover, it must also be remembered that the size of the class is not a purely educational but a financial issue. When an educational authority has to face a given number of children but commands only limited resources for the appointment of teachers, the size of the class gets determined on administrative and financial grounds, irrespective of the educational theory then prevailing. It is not always possible to make social and financial situations agree with educational theories. On the other hand, it is always preferable to utilise educational theories for devising solutions to problems that arise from inescapable social and economic needs. The question which an educationist should ask is: What methods of teaching should be evolved in order to enable the teacher to teach in a class of size which appears inevitable in the given situation? The teaching profession in this country has not intellectually accepted the large class as an inescapable necessity and it is not trained academically to handle it in an efficient manner. Yet the average situation in the country is such that six teachers out of ten are called upon to face classes of very big sizes varying from 50 to 100. It is this contrast between the training of teachers and their expectations on the one hand and the needs of the social and economic realities on the other - and not the large classes - that caused the present malaise in India. If we could only accept a large

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class-size as an economic necessity for the next 10 to 15 years, if we can concentrate on the evolution of teaching methods suitable for large classes, and if we can train our teachers properly in the handling of these methods, the educational standards would materially improve in spite of the size of the classes.

The study of the elementary education even in the advanced countries shows that, in the initial stages, they adopted classes of larger size in order to achieve expansion quickly and economically. Later on, as the pressure of expansion became less and the resources available to elementary education expanded, the class-size was gradually reduced. A similar development has taken place in Kerala, the most advanced State in India in elementary education; and probably, a similar development will have to be planned for the rest of the country, and particularly for the less advanced States.

At present, the pupil teacher ratio is about 35:1. The different proposals made in this respect are that it may be raised to 40, 45 or even 50. Since the controversies on the subject are still strong and since public opinion in the country has not yet crystallised on this issue, it is proposed to calculate the total number of teachers required as well as the expenditure involved in the programme of providing free and compulsory education to all children in the age-group 6-14 on the basis of four different pupil-teacher ratios - 35, 40, 45 and 50. This may help the final decision on the subject.

Number of Teachers Required:

The total number of teachers required for the development of elementary education during the next 15 years has to be calculated in two parts: (a) the number of teachers

required for additional enrolment in Classes I-VIII;  
and (b) the number of teachers required for replacement due to  
such causes as retirement, death or desertion.

(a) Teachers Required for Additional Enrolment: The number  
of additional teachers required for new enrolment will depend  
upon the target date for the introduction of free and  
compulsory education in the age-group 6-14 and also upon the  
pupil-teacher ratio adopted. As stated earlier, for the  
purpose of these calculations, three target dates will be  
assumed (1985, 1980 and 1975) and four different assumptions  
will be made with regard to the pupil-teacher ratios  
(35, 40, 45 and 50).

The number of additional teachers required for the  
expansion of elementary education have been separately given  
below in Table III on each of these assumptions:-

Table No. III - Number of Additional Teachers required to meet the demand of additional pupils (1966-76) (In thousands)

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Assumption about enrolment by 1975-76	Total enrolment in Classes I-VIII in		No. of Teachers expected to be in position in 1966	No. of Teachers expected to be in position in 1976 on the assumption of pupil-teacher ratios of				Teachers needed for additional enrolment on the basis of the pupil-teacher ratios of			
	1966	1976		<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>	<u>35</u>	<u>40</u>	<u>45</u>	<u>50</u>
I. 100 p.c. in 6-11 age-group and 50 p.c. in 11-14 age-group	59,400	100,000	1,626	2,860	2,500	2,222	2,000	1,234	874	596	374
II. 100 p.c. in 6-11 age-group and 75 p.c. in 11-14 age-group.	59,400	110,000	1,626	3,146	2,750	2,444	2,200	1,520	1,124	818	574
III. 100 p.c. in 6-11 age-group and 100 p.c. in 11-14 age-group.	59,400	120,000	1,626	3,432	3,000	2,666	2,400	1,806	1,374	1,040	774

(b) Number of teachers required for replacement: The number of teachers required for filling the gaps in the ranks of the existing teachers due to retirement, death, desertion, etc. can be calculated if the replacement rate is known with fair accuracy. It may be pointed out that this replacement rate varies from country to country and, even in the same country, from time to time, because it depends on several social and economic factors. In several European countries, where the practice of a young woman working as an elementary teacher until she gets married is common; the replacement rate is as high as 7 percent. In Japan, where the tradition is to follow the profession steadily, the replacement rate is less than 2 percent. In a recent study made by the Ministry of Education, it was found that the replacement rate in India varied from one part of the country to another. In the tribal areas, for instance, where the conditions of life are very difficult, the desertion rate is high. In urban areas, on the other hand, the desertion as well as the death rate is lower. The studies on replacement rate will, therefore, have to be conducted periodically and separately for the different parts of the country.

In the study of the problem recently carried out by the Ministry of Education, it was found that the overall replacement rate for the country as a whole was about 3.7 percent - 2 percent for retrenchment and 1.7 percent for desertion. As this study was based on comparatively meagre data and as there is reason to believe that its findings erred on the side of underestimation, it has been assumed, in this Plan, that the replacement rate for elementary teachers would be about 4 percent (2 percent for retirement and 2 percent for desertions and deaths) during the next 10-15 years.

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If replacement is calculated at 4 percent per year on the total number of teachers in position in 1965-66, and if replacement is calculated on the new teachers appointed, during the fourth and the fifth Five Year Plans, at 2 percent (in the case of these teachers the question of retirement does not arise and the only reasons for replacement would be deaths, desertions, etc. which account for only 2 percent), the total number of teachers required during this period for the expansion of elementary education as well as for replacement can be calculated. This is shown in Table No. IV:



Table No. IV - Total Number of Additional Teachers Required (1966-76)

Assumption about enrolment by 1975-76	Teachers required for replacement @ 4% per year of the initial cadre of 1,600,000 in 1955-66 in the 10-year period (in lakhs)	Teachers required for additional enrolment on the basis of different pupil-teacher ratios (in thousands)				Total number of additional teachers required (1966-76) on the basis of pupil-teacher ratios of (in thousands)				Annual requirements of additional teachers in 1966-76 on the basis of pupil-teacher ratios of (in thousands)			
		35	40	45	50	35	40	45	50	35	40	45	50
I. 100 percent in 6-11 age-group and 50 percent in 11-14 age-group.	6.50	1,234	874	596	374	2,007	1,611	1,306	1,061	201	161	131	106
II. 100 percent in 6-11 age-group and 75 per cent in 11-14 age-group.	6.50	1,520	1,124	818	574	2,322	1,886	1,550	1,281	232	189	155	128
III. 100 percent in 6-11 age-group and 100 percent in 11-14 age-group.	3.50	1,806	1,374	1,040	774	2,637	2,161	1,794	1,501	264	216	179	150

\*Replacements added at 10 percent on the total number of teachers required (replacement rate being taken at 2 percent per annum on the teachers actually employed during the year).

It will be seen from the above table that the minimum number of additional teachers required during the fourth and the fifth Five-Year Plans would be 106,000 a year (on the basis of the minimum target of enrolment and the highest pupil-teacher ratio) while the largest number of teachers needed would be 264,000 a year (on the basis of the highest target of enrolment and the lowest pupil-teacher ratio.)

Expansion of Training Facilities:

If this required number of teachers is to be trained and if new appointments to the teaching profession are to be restricted to trained teachers only, the enrolment in the training institutions for elementary teachers will have to be considerably increased. The following table shows the enrolment needed in training institutions in relation to (1) the target of enrolment, and (2) the pupil-teacher ratio to be adopted, on the assumption that (a) the duration of the training course would be two years and that (b) the wastage in training institutions would be of the order of 10 percent only:-

Table No.V: Total Enrolment needed in Training Institutions (1966-70)

Assumption with regard to targets.	Enrolment Needed in Training Institutions on the assumption of a pupil-teacher ratio.			
	35	40	45	50
	(In thousands)			
I. 100 percent enrolment in 6-11 age group and 50 percent in 11-14 age-group	447	358	291	270
II. 100 percent enrolment in 6-11 age group and 75 percent in 11-14 age-group	516	420	344	284
III. 100 percent enrolment in 6-11 age group and 100 percent in 11-14 age-group.	587	480	398	333

The large expansion of training facilities needed in the immediate future can be imagined if these requirements are compared to the existing position in 1960-61 when the total number of training institutions for elementary teachers in the country was 1,139 and their enrolment stood only at 122,770. Even at the end of the third Five Year Plan, their number will be only about 1,300 with an enrolment of 150,000.

There are three ways to step up the enrolment of training institutions: (1) to open new training institutions; (2) to increase the capacity of existing training institutions; and (3) to try out a suitable combination of (1) and (2).

The study-group on teacher-training has recommended that (1) each State should decide the optimum size of a training institution (this would be somewhere between 150 to 200), (2) increase the capacity of each smaller institution to the optimum size, (3) establish the necessary number of new institutions after the expansion due to (2) is first ascertained, and (4) plan the location of all training institutions in such a manner that about 80 percent of them are located in the rural areas, that each District (which should be taken as a unit in this case) should have an adequate number of training institutions to meet the needs of all its schools and that they should be located in such a way as to be accessible easily from all parts of the district. The study-group has further recommended that each State should prepare a definite programme for the expansion and improvement of training facilities for elementary teachers before the end of 1963-64 and that the implementation of this programme should start in the last two years of the third Five Year Plan itself. Since the preparation of teachers is the most important condition precedent for

the success of a programme of elementary education, this scheme of expanding and improving teacher training facilities will have to be given a high priority and will have to be implemented fully during the next 3-5 years.

Buildings and Equipment:

The improvement of teachers is no doubt the single most important factor in the qualitative improvement of elementary education which would have to be emphasised in the fourth and the fifth Five Year Plans. But a mere improvement of teachers is not enough. It has to be supplemented by three other programmes: (1) the provision of adequate buildings and equipment for all elementary schools; (2) the provision of ancilliary services such as school health, school meals, free supply of textbooks and writing materials and school uniforms; and (3) the provision of an adequate and competent supervisory service.

The programme of providing school buildings (inclusive of quarters for teachers, wherever necessary and possible) and equipment to all elementary schools will involve a very large financial outlay. At the end of the third Five Year Plan, the total enrolment in elementary schools would reach about 60 million and out of these, only about 40 percent is estimated to have been provided with satisfactory buildings and adequate equipment. Steps will, therefore, have to be taken to provide buildings and equipment to about 36 million children out of those already enrolled in schools by the end of the third Five Year Plan. In addition, buildings and equipment, on a similar scale would have to be provided for all the new children that would be enrolled during the fourth and the fifth Five Year Plans. Assuming that this new enrolment would be of the order of 4 million a year, buildings and equipment will have to be provided for a total of 76 million children during the fourth and the fifth Five Year Plans or roughly at the rate of about 7.6 million children per year.

Assuming that the cost of buildings is Rs. 75 per pupil and that equipment is Rs. 50 per pupil, the total outlay required for this programme alone would be Rs. 9,500 million during the fourth and the fifth Five Year Plans or Rs. 950 million per year.

The cost of buildings and equipment assumed in these estimates is not very high. In fact, in several parts of the country, the actual cost for providing equipment and buildings to elementary schools is much higher than the assumptions made here. It is however, felt that it should be possible to organise research in the better planning of school buildings and equipment and to use of available local materials to reduce the cost of this programme and to bring it within the assumptions stated above.

#### Ancillary Services:

At present, there is hardly any provision for school health services, except in a few urban areas. One of the major programmes for improving the health of the school child and thereby the standards of instruction in elementary schools is to provide an efficient health service to all the children. A beginning in this direction may be with the age-group 6-11; but ultimately the services will have to be extended to all children in the age-group 6-14.

A programme of school meals is the second important ancillary service that will have to be organised for improving the health of the school child. By the end of the third Plan, about 10 million children are proposed to be brought under this programme. It is, however, necessary to expand the programme intensively during the fourth and the fifth Five Year Plans and to provide nutritious and balanced school meal to every child attending elementary school by 1975-76.

The third important ancillary service is to provide free textbook and writing materials to all children attending elementary schools. In addition, provision will also have to be made to see that all children in elementary schools use the prescribed school uniform and that, for this purpose, the necessary assistance is made available to the children of poor parents. These two programmes would not be so costly as the programmes of providing health services and noon meals; but taken together, they will assist materially in improving the standard of instruction in elementary schools.

Improving Supervision:

The third important programme for qualitative improvement of elementary education is to provide an adequate and competent supervisory service. At present, the total work load on a supervisory officer of elementary schools is very heavy. This has to be reduced so that he may be able to devote more time to working with teachers and guiding them to improve instruction, and for the purpose it will be necessary to increase the number of supervisory officers. Perhaps, it may also be necessary to separate certain administrative functions which are now performed by the supervising agency and to entrust them to another agency specially created for the purpose. Steps will also have to be taken to improve the remuneration of supervisory staff to attract a better type of persons to the profession and to provide them regular institution-aided programmes of in-service education with a view to improving their competence.

Educational research will also have to be developed in all sectors of elementary education and particularly in respect of curriculum and teaching methods. Special problems, such as, the single-teacher schools would also

have to be studied with a view to improving their working. For this purpose, special institutions would have to be set up in each State for the development of research in elementary education and also to assist universities, training colleges and voluntary organisations to develop a programme of research in all problems of elementary education.

Financial Implications:

It is necessary to realise the financial implications of these proposals of qualitative improvement. From this point of view, a number of suggestions have been put forward and they may be summarized broadly as in the following table :-

(i) Teacher Costs: It has been suggested that the improvement of teachers salaries should be on the lines of one or other of the following proposals :-

Proposal	<u>Average Annual Salary proposed to be reached in</u>			
	<u>1961</u> Rs.	<u>1966</u> Rs.	<u>1971</u> Rs.	<u>1976</u> Rs.
I	900	1000	1300	1500
II	900	1100	1400	1600
III	900	1200	1500	1700
IV	900	1300	1600	1800

All these proposals are made on the basis of the 1960-61 prices. They will have to be suitably modified from time to time, in keeping with the rise in price or cost of living.

It will be seen that first of these four proposals suggests an increase of about two-thirds in the average remuneration of elementary teachers. The national dividend in 1960-61 was about Rs.330 and is expected

to rise to Rs.600 (at constant prices) by 1975-76. Under this proposal, therefore, the salaries of elementary teachers would not rise even in keeping with the growth in the national dividend of the country. It would, however, be inescapable if small pupil-teacher ratios are insisted upon. On the other hand, proposal No. IV suggests that the average salary of the elementary teachers should be doubled during this period of 15 years. The underlying assumption is that the salaries of elementary teachers are low at present and that they will have to increase at a rate faster than that of the national dividend if justice to be given to the elementary teachers. This will, however, require a fair increase in the pupil-teacher ratio. Proposals II and III hold intermediary positions between these two extremes.

(ii) Non-teacher Costs: The second important implication of the above proposals is that, in spite of this proposed increase in salaries of teachers the non-teacher costs of education will also increase considerably during the Fourth and Fifth Five-Year Plans both in absolute figures as well as in their relation to teacher costs. In 1950-51, the ratio of teacher costs to non-teacher costs in the total direct expenditure on elementary education was 80:20. During the next 10 years, the proportion of non-teacher costs gradually declined and, at the end of the Second Plan, it was estimated that the ratio of teacher costs to non-teacher costs would be 88:12. The physical facilities provided in elementary schools, low as they were even in 1950-51, have obviously declined still further during the first two plans and that, owing to pressure of expansion, the average elementary school is almost equivalent to the mere provision of a teacher at present. If ancillary services are to be developed on the lines indicated above, it is obvious that,



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inspite of the increase in the salaries of teachers, the proportionate share of the non-teacher costs in the total direct expenditure on elementary education would still greatly increase. The ideal target to be reached in this respect would be a ratio of 50:50 between teacher and non-teacher costs. But as an alternative, two other ratios may also be considered : 60:40 and 70:30. It will obviously not be possible to allow the proportion of teacher costs and non-teacher costs to fall below 70:30 without adversely affecting the quality of elementary education.

(iii) Teacher Training: At present, the costs of teacher training is roughly about 3.5 per cent of the total direct expenditure on elementary education. If the training facilities are to be expanded and improved, as indicated above, it is estimated that this expenditure will have to rise to at least 5 per cent on the total direct expenditure on elementary education.

(iv) Supervision: If the supervising machinery is to be strengthened and improved as indicated above and if research in the problems of elementary education is to be extensively developed, it will be necessary to increase the total expenditure on direction and inspection also. At present, the total expenditure on this head is about 2.5 per cent of the total direct expenditure on elementary education. It is felt that this will have to be increased to at least 5 per cent during the fourth and fifth Five Year Plans.

(v) Capital Costs: At present, the capital expenditure incurred on elementary education is very low. In order to provide elementary schools with adequate buildings and equipment, it is very necessary to provide large outlays during the fourth and fifth Five-Year Plans. The minimum amount required may be Rs 75 per pupil on account of buildings and Rs 50 per pupil on account of equipment and the optimum amount may be Rs 100 per pupil on account of buildings and Rs 100 per pupil on account of equipment.

Estimate of Funds Required: The Need-Based Approach:

If the targets of expansion, as suggested earlier, are to be reached and if a programme of qualitative improvement of elementary education on the lines indicated above is also to be implemented simultaneously, it is obvious that the total expenditure on elementary education will increase very considerably. It is, therefore, necessary to make a rough estimate of the financial outlay that would be needed to put across the programmes suggested above.

There are two ways in which this can be done. In the first of the need-based approach, an attempt is made to determine the programme demanded by the people and the total financial outlay required for its implementation is calculated. In the second or the resources-based approach, an attempt is first made to estimate the financial resources that are likely to be available for a programme of elementary education and then the outline of the best programme that could be put across within the inescapable financial limitations is prepared. It is obvious that the implications of the programme and its priorities can be understood better if both these exercises are attempted and balanced against each other.

The total cost of a programme of free and compulsory education as it is generally demanded by the people is very high. A rough indication of this may be had from the following calculations.

I. Recurring Cost

(a) Teacher Costs: The general consensus of opinion is that the minimum salary of an elementary school teacher should be Rs 100 per month. The maximum is placed varyingly at Rs.200, Rs.250 or even Rs.300. The average salary of the type of the scale which is generally proposed at present would be about Rs.150 per month or Rs.1800 per year. To this, we will have to add about 10% for costs on account of old-age provision and welfare services. It may, therefore, be safely assumed

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that, under the existing proposals, the average cost on account of a teacher would be Rs.2,000 per year. The commonly accepted pupil-teacher ratio is 40:1. Hence the recurring teacher-cost of elementary education would be Rs.50 per pupil.

(b) Cost on account of other items: To this, we will have to add the recurring cost per pupil on account of other items. These would include the following :-

	<u>Annual cost</u> <u>per pupil</u>
	Rs.
School Health (including school meals) for all children	30
School uniforms (given free to about 20% of the children)	5
Supply of free textbooks and writing materials and other costs and contingencies	<u>10</u>
Total	<u>Rs.50</u>

(c) Total Recurring Costs: It will thus be seen that the total direct cost per pupil would come to Rs.100. To this, we will have to add 5% on account of the direct costs of teacher education and another 5% on account of supervision. The total recurring cost of elementary education would thus come to Rs.110 per pupil.

II. Non-recurring Cost:

The cost of one <sup>a</sup> class room of primary, middle or basic school varies considerably. In cities and town, it may be as high as Rs.6,000 to Rs.10,000 per class room (exclusive of land) and may go up to Rs. 8,000 to Rs.18,000 inclusive of land and equipment. In villages, the cost is considerably lower. The land is almost free and the construction

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cost of the building is about Rs.3000 to Rs.4,000 per class room. For the country as a whole, the capital cost on account of buildings is generally assumed at Rs.100 per pupil. Similarly, the cost on account of equipment also is assumed at Rs.100 per pupil. This includes furniture, teaching aids, library and craft materials. On these assumptions, a sum of Rs.200 per child per year would be needed for non-recurring expenditure. As has been stated above, provision will have to be made for this non-recurring expenditure for about 36 million children out of those who would be already enrolled by the end of the Third Five Year Plan and for all the additional children proposed to be enrolled during the Fourth and the Fifth Five-Year Plans.

III. Total Cost - Recurring and Non-Recurring:

The following table shows the total cost of this programme on the three assumptions made above.

Table No. VI: Total Cost (Recurring and Non-recurring) of a Programme of Free and Compulsory Education for all Children in the Age-Group 6-14

Target	Total Number of Children to be Enrolled in Elementary Schools by 1975-76 (in millions)	Total Recurring Cost of the Programme (in millions) @ Rs.100 per child	Total Capital Cost of the Programme (in millions) @ Rs.200 per child per year	Grand Total (Annual Cost) (in millions)
(1)	(2)	(3)	(4)	(5)
		Rs.	Rs.	Rs.
I. 100% enrolment in the age group 6-11 and 50% enrolment in the age-group 11-14.	100	11,000	1,520	12,520
II. 100% enrolment in the age-group 6-11 and 75% enrolment in the age-group 11-14	110	12,100	1,720	13,820
III. 100% enrolment in the age-group 6-11 and 100% enrolment in the age-group 11-14.	120	13,200	1,920	15,120

N.B. In calculating the non-recurring cost, it has been assumed that all the new children enrolled in schools during the year as well as one-tenth of the 36 million children enrolled by 1965-66 (and not provided with adequate buildings and equipment) would be covered by the programme of capital expenditure. Under target No.1, the total number of children for whom capital costs would have to be provided annually comes to 7.6 million (4 million new enrolment and 3.6 million old enrolment). The total capital cost of the programme of buildings and equipment at Rs.200 per child thus comes to Rs.1520 million. Similarly, the number of children to be covered under the capital costs programme under target No.II is 8.6 million (5 million new enrolment and 3.6 million old enrolment) and that under target No.III is 9.6 million (6 million new enrolment and 3.6 million old enrolment).

The most popular demand is that free and universal education should be provided for all children in the age-group 6-14 by 1975-76 at the latest. It, therefore, follows that if the popular demand is to be implemented, the total expenditure on the programme of elementary education which stood at about Rs.1200 million (or 0.8% of the national income) in 1960-61 would have to be increased to Rs.15,120 million (or 4.3% of the national income) by 1975-76.

This is almost an impossible demand. India was spending only about 2.3 per cent of her national income on education as a whole in 1960-61, and the best we can hope for is that this expenditure should rise to about 6 per cent by 1975-76. Under these circumstances, to expect that the total expenditure on elementary education alone would rise to 4.3 per cent of the national income is not very realistic.

The Resources-Based Approach: Funds likely to be Obtained for Elementary Education:

Let us now turn to the second or the resources-based approach to the planning of elementary education. Here, we do not first determine what the programme of elementary education would be and then determine its cost; on the other hand, we ask the question: What is the amount likely to be available by 1975-76 for the

recurring and capital expenditure on elementary education and what is the best programme that can be put across within this amount?

In order to answer these questions properly, it will be necessary to raise two other related issues: (a) What proportion of its national income should India spend on education in general? and (b) What proportion of this total educational expenditure should be devoted to the provision of free and compulsory education for all children in the age-group 6-14?

With regard to the first of these issues, it may be pointed out that India today spends only about 2.3 per cent of her national income on education as a whole. This is much lower than what many countries of the world are spending. In this respect, we may divide the countries of the world into three categories. In the first category come those countries which spend more than 5 per cent of their national income on education: Japan, for instance, spends 6 per cent of its national income on education. In the second category come those countries which spend about 3-5 per cent of their national income on education: England, for instance, spends 4.5 per cent of its national income on education. In the third category come most of the developing countries of the world which generally spend less than 3 per cent of their national income on education; and it is in this category that India is included at present. The consensus of opinion amongst educational planners is that the developing countries also should raise their expenditure on education to a minimum of 4 per cent of the national income and, if possible, even to 5 per cent. This is a reasonable target and we may assume that, by 1975, India would be able to spend at least 5 per cent, and preferably 6 per cent, of its national income on education.

With regard to the second issue, viz. the proportion of total educational expenditure to be devoted to elementary education, it may be pointed out that, in 1949-50, the total direct expenditure on elementary education stood at Rs.401 million out of a total educational expenditure of Rs.1,022 million and formed 39.3 per cent of the total educational expenditure. In 1950-51, the Kher

Committee recommended that the development of elementary education should be emphasised and that the total expenditure on elementary education (including direct and indirect) should be raised to 50% of the total educational expenditure. As the indirect expenditure on elementary education which comes to about 10 per cent of the total direct expenditure this recommendation would imply that the total direct expenditure on elementary education should be about 45 per cent of the total educational expenditure. During the first two Plans, it was hoped that the proportion of total educational expenditure allocated to elementary education would increase and the target proposed by the Kher Committee would be reached. This hope has, however, not materialised. In 1960-61, the total direct expenditure on elementary education was about Rs.1200 million out of the total educational expenditure of Rs.3425 million which roughly works out to 35.3 per cent.

It is now obvious that the policy recommended by the Kher Committee will now have to be changed in view of the greater emphasis that has to be placed on secondary and higher education. Ultimately, elementary education will not get more than 33 to 35 per cent of the total resources available for elementary education and that education itself will not get more than 5 or 6 per cent of the national income (estimated at Rs.3730 billion) in 1975-76. On these assumptions the total amount likely to be available for elementary education would vary between about Rs.6300 million and Rs.7100 million in 1975-76, as against about Rs.1200 million in 1960-61. This is no small increase. But one must also remember that this appears to be, by and large, the outside limit for funds likely to be available for the development of elementary education. If the total national income does not increase by 7 per cent per annum (as has been assumed in these calculations) and if the total expenditure on education does not rise to 5 or 6 per cent of the national income (as has been further assumed here) the total amount likely to be available for the development of elementary education during the fourth and the fifth Five-Year Plans would be even smaller.



Cost per Pupil:

Assuming that the total amount likely to be available for the development of elementary education would vary between Rs.6,300 million and Rs.7,900 million by 1975-76, we may have to set aside about 10 per cent of this amount for capital expenditure. The total amount available for recurring expenditure would thus vary between Rs.5,700 million and Rs.7,100 million. As the number of children to be enrolled varies between 100 million and 120 million depending upon the target adopted, we would be able to afford a cost per pupil which would vary between Rs. 47.5 per pupil per year (on the assumption that the amount available for recurring expenditure on elementary education would be the least, that is, Rs.5,700 million and the number of children to be enrolled would be the highest, that is, 120 million) and Rs.71 per pupil per year (on the assumption that the funds available for recurring expenditure would be the highest, that is, Rs.7,100 million and the target of enrolment would be the lowest, that is, 100 million). The different costs per pupil that could be possible between these two extreme limits are shown in the following table :

Table No. VIII: Cost per Pupil (1975-76)

Target	Total number of children to be enrolled (in millions)	Total amount likely to be available for recurring expenditure on elementary education (in millions)	Cost per pupil
	Rs.		Rs.
(1)	(2)	(3)	(4)
100 per cent enrolment in the age-group 6-11 and 100 per cent enrolment in the age group 11-14	120	5,700	47.5
100 per cent enrolment in the age-group 6-11 and 75 per cent enrolment in the age group 11-14.	110	5,700	51.9
100 per cent enrolment in the age-group 6-11 and 50 per cent enrolment in the age group 11-14	100	5,700	57.0

(1)	(2)	(3)	(4)
100 per cent enrolment in the age-group 6-11 and 100 per cent enrolment in the age group 11-14	120	7,100	59.1
100 per cent enrolment in the age-group 6-11 and 75 per cent enrolment in the age-group 11-14	110	7,100	64.5
100 per cent enrolment in the age group 6-11 and 50 per cent enrolment in the age-group 11-14.	100	7,100	71.0

The cost per pupil in elementary schools at the end of the second Five Year Plan was about Rs.30. The above table shows that it is possible, depending upon the target adopted and the funds available, to raise this cost from Rs.30 to any amount between Rs.47.5 and Rs.71.0. These are, by no means, very ambitious assumptions. In fact, judged by the standard recommended by the Karachi Plan, which assumed a cost per pupil of Rs.100 to be reached by 1980, these may be said to be on the low side.

Cost per Pupil in Relation to Average Salary of Teachers - Pupil-Teacher Ratio and Non-Teacher Costs:

Three important questions arise in this context. Given a certain cost per pupil, (1) what average annual salary can be given to the teachers? (2) what pupil-teacher ratio can be adopted? and (3) what would be the proportion between the teacher costs and non-teacher costs? In order to answer these questions, it is necessary to connect the cost per pupil with the other three variables involved. This has been done below.

Let  $n$  be the number of children to be educated;  
 $x$  be the cost per pupil;  
 $o$  be the average annual salary of a teacher  
 $t$  be the pupil-teacher ratio; and  
 $r$  be the ratio of teacher costs to total direct expenditure on elementary education.

Then, the number of teachers required is  $\frac{n}{t}$ .

1 > 2

Since the average annual salary of a teacher is  $a$ , the total cost on account of a teacher is  $\frac{11a}{10}$ , adding 10 per cent on account of old-age provision and welfare services. The total teacher costs, therefore, are  $\frac{11an}{10t}$ .

If these are  $\frac{n}{100}$  of the total direct expenditure, the latter is equal to  $\frac{110an}{rt}$ . Adding 10 per cent for indirect expenditure on teacher education and supervision, the total recurring expenditure becomes  $\frac{121an}{rt}$  ..... (1)

But, since the cost per pupil is  $x$ , the total recurring expenditure is also  $nx$  ..... (2)

Equating (1) and (2),

$$x = 121 \frac{a}{rt} \dots\dots\dots (3)$$

This formula connects four variables; 'x' or the cost per pupil; or the average annual salary of an elementary teacher; 'r' or the ratio of teacher-costs to total direct expenditure on elementary education; and 't' or the pupil teacher ratio. Given any three of these, it is possible to find out the fourth.

For convenience of reference, the following table has been compiled to show all possible variations of 'a', 'r', and 't' for the six different values of 'x' which were obtained in Table No. VIII:

Table No. IX: Cost Per Pupil in Relation to the Average Annual Salary of Teachers, Pupil-Teacher Ratios and Proportion of Teacher Costs to Total Direct Expenditure on Elementary Education

Cost per Pupil (in rupees)	Average Annual Salary of Teachers (in rupees)											
	Pupil-teacher Ratio : 35			Pupil-teacher Ratio : 40			Pupil-teacher Ratio : 45			Pupil-teacher Ratio: 50		
	Ratio of Teacher Costs to Total Direct Expenditure on Elementary Education			Ratio of Teacher Costs to Total Direct Expenditure on Elementary Education			Ratio of Teacher Costs to Total Direct Expenditure on Elementary Education			Ratio of Teacher Costs to Total Direct Expenditure on Elementary Education		
	70%	80%	50%	70%	60%	50%	70%	60%	50%	70%	60%	50%
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
47.5	962	324	687	1,099	942	785	1,237	1,060	883	1,374	1,178	981
51.9	1,050	970	750	1,201	1,029	858	1,351	1,158	965	1,501	1,287	1,072
57.0	1,154	939	824	1,319	1,131	942	1,484	1,272	1,060	1,649	1,413	1,178
59.1	1,197	1,026	855	1,368	1,172	977	1,539	1,319	1,099	1,710	1,465	1,221
64.5	1,306	1,119	933	1,493	1,279	1,066	1,679	1,439	1,199	1,866	1,599	1,333
71.0	1,436	1,232	1,027	1,643	1,408	1,174	1,848	1,584	1,320	2,054	1,760	1,467

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A word of explanation may be given regarding the use of this table which connects the costs per pupil with the average annual salary of teacher, the pupil-teacher ratio and proportion of the teacher costs, to non-teacher costs. For instance, when the cost per pupil is Rs.47.5 per year (column 1, first row), the pupil teacher ratio is 35, and the proportion of teacher costs to non-teacher costs is 50:50, the average annual salary of the teacher would be Rs.687 (column 4, first row). Similarly when the cost per pupil per year is Rs.71 (column 1, row 6) the pupil-teacher ratio is 50 and the proportion of teacher costs to non-teacher costs is 70:30, the average annual salary of the teacher would be Rs.2,054. In this way, all these four variables could be connected with each other.

It will be seen from the above table that the average annual salary of teachers can vary from Rs.687, which is calculated on the lowest cost per pupil (47.5), the lowest pupil-teacher ratio (35) and the highest proportion of non-teacher costs (50%), to Rs.2,054, which is calculated on the basis of the highest costs per pupil (Rs.71), the highest pupil-teacher ratio (50), and the lowest proportion of non-teacher costs (30%). It was suggested earlier that the limits within which the salary of the elementary teacher may be made to vary by 1975-76 would be Rs.1500 to Rs.1800. Within these limits, the following options are available to us:

- (i) For average annual salaries between Rs. 1400 and 1499:

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 35 and non-teacher costs at 30%, the average annual salary of Rs.1,438 can be given.

If we adopt a cost per pupil of Rs.64.5, a pupil-teacher ratio of 40, a non-teacher costs at 30%, an average annual salary of Rs.1,493 can be given.

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 40 and non-teacher costs at 40%, an average annual salary of Rs.1,408 can be given.

If we adopt a cost per pupil of Rs.57, a pupil-teacher ratio of 45, and non-teacher costs at 30%, an average annual salary of Rs.1,484 can be given.

If we adopt a cost per pupil of Rs.64.5, a pupil-teacher ratio of 45 and non-teacher costs at 40%, an average annual salary of Rs.1,439 can be given.

If we adopt a cost per pupil of Rs.57, a pupil-teacher ratio of 50, and non-teacher costs at 40%, an average annual salary of Rs.1,413 can be given.

If we adopt a cost per pupil of Rs.59.1, a pupil-teacher ratio of 50 and non-teacher costs at 40%, an average annual salary of Rs.1,465 can be given.

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 50, and non-teacher costs at 50%, an average annual salary of Rs.1,467 can be given.

(ii) For average annual salaries between Rs.1500 and 1599:

If we adopt a cost per pupil of Rs.59.1, a pupil-teacher ratio of 45 and non-teacher costs at 30%, an average annual salary of Rs.1,539 can be given.

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 45 and non-teacher costs at 40%, an average annual salary of Rs.1,584 can be given.

If we adopt a cost per pupil of Rs.51.9, a pupil-teacher ratio of 50 and non-teacher costs at 30%, an average annual salary of Rs.1,501 can be given.

If we adopt a cost per pupil of Rs.64.5, a pupil-teacher ratio of 50 and non-teacher costs at 40%, an average annual salary of Rs.1,599 can be given.

(iii) For average annual salaries between Rs.1600 and 1699:

If we adopt a cost per pupil of Rs.71 a pupil-teacher ratio of 40 and non-teacher costs at 30%, an average annual salary of Rs.1,643 can be given.

If we adopt a cost per pupil of Rs.64.5, a pupil-teacher ratio of 45 and non-teacher costs at 30%, an average annual salary of Rs.1,679 can be given.

If we adopt a cost per pupil of Rs.57, a pupil-teacher ratio of 50 and non-teacher costs at 30%, an average annual salary of Rs.1,649 can be given.

(iv) For average annual salaries between Rs.1700 and 1799:

If we adopt a cost per pupil of Rs.59.1, a pupil-teacher ratio of 50, and non-teacher costs at 30%, an average annual salary of Rs.1,710 can be given.

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 50, and non-teacher cost at 40%, an average annual salary of Rs.1,760 can be given.

(v) For average annual salaries of Rs.1800 and above

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 45 and non-teacher costs at 30%, an average annual salary of Rs.1,848 can be given.

If we adopt a cost per pupil of Rs.64.5, a pupil-teacher ratio of 50 and non-teacher costs at 30%, an average annual salary of Rs.1,866 can be given.

If we adopt a cost per pupil of Rs.71, a pupil-teacher ratio of 50 and non-teacher costs at 30%, an average annual salary of Rs.2,054 can be given.

It will thus be seen that a pupil teacher ratio of 35 is practically ruled out if we want to give a decent wage to elementary school teachers. The pupil-teacher ratio will have to be increased to 45 at least and perhaps to 50. This will

be possible if the double shift could be introduced in class I and II.

It also appears that it may not be possible for us to allow non-teacher costs to go beyond 30% of the total direct expenditure on elementary education. This will imply that we may not be able to provide school meals to more than 30% of the children. The facilities regarding school health services may also have to be curtailed. The provision of free text-books and writing material can, however, be provided to all and the supply of free uniforms may have to be restricted to 20 per cent of the total enrolment.

Some Important Administrative Problems:

We have discussed so far the main financial problems involved in the development of elementary education, namely, the total financial outlay required for a good programme of elementary education, the funds likely to be available for it in the near future, the manner in which they could be best utilised and the fixation of priorities. We shall now turn to the consideration of some of the important administrative considerations involved in the programme.

(a) Preparation of State Plans: What has been indicated in the foregoing discussions is a broad outline of the perspectives of the development of elementary education in India as a whole and points on which planning decisions would be required. Conditions, however, vary so greatly from State to State that a nation-wide plan acquires relevance only when it is integrated with the plans at the State level where the responsibility for implementation rests. It is, therefore, necessary for each State to prepare its own perspective plan for the development of elementary education between 1965-66 and 1975-76 against the background of a general plan of socio-economic development in the State and also of educational developments in all sectors.

It is, therefore, suggested that, during 1963-64, each State should prepare its own perspective plan for the development of



elementary education between 1965-66 and 1975-76. An all-India plan for the development of elementary education should then be prepared on the basis of these State Plans. In the light of the national plan thus finalised and approved by appropriate authorities the State Governments should prepare their fourth Five Year Plans for the development of elementary education during 1965-66.

In preparing the State plans for the development of elementary education, one point has to be emphasised. A programme of universal education is essentially a programme of equalising educational opportunities, irrespective of caste, race, religion, sex or even the place of residence. At present, a perfect equality of educational opportunity does not obtain in any State. Some districts are more advanced than others; the urban areas, as a rule, are more advanced than the rural ones; some classes in society take better advantage of educational facilities than others; and boys as a rule are better educated than girls. All these inequalities will have to be eliminated or reduced to a minimum in a programme of free and compulsory education for all children in the age-group 6-14. Adequate provision for this will have to be made in the State plans for the development of elementary education.

**(b) Equalisation of Educational Opportunities: at the State Level:**

A well-planned programme for the development of elementary education in a State would provide equality of educational opportunity to all the children in the State and would eliminate any differences that may exist now between one area and another. Similarly, a national plan for the development of elementary education would have to remove the existing inequalities in elementary education as between one State and another. This can be done only if the Federal Government takes an active interest in the development of elementary education in every State and evolves a programme under which each State is assisted to reach the goal in the shortest time possible and necessary special assistance is provided to the less advanced States.

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In this context, it may be pointed out that the problem of providing free and compulsory education in India is becoming equated with the problem of developing universal education in States such as Bihar, Jammu & Kashmir, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh where the leeway to be covered is very much larger. The problem of providing free and compulsory education in the whole of India will, therefore, centre on providing universal education in these six States. As the advanced States are nearing their goal, the non-attending children in the country as a whole are getting more and more concentrated in the six less advanced States. This will be clearly brought out from the following tables:

TABLE NO. X PRIMARY EDUCATION IN THE LESS ADVANCED STATES

S T A T E	1961			1966		
	Total Population in lakhs in the age-groups 6-11 (Estimated)	Total Enrolment in classes I-V (in lakhs)	Non-attending children (in lakhs)	Total Population in lakhs in the age-group 6-11 (Estimated)	Total Enrolment in classes I-V (in lakhs)	Non-attending children (in lakhs)
	1.	2.	3.	4.	5.	6.
Bihar						
Boys :	29.90	24.46	5.44	34.42	30.00	4.42
Girls:	23.44	7.39	21.05	32.86	18.00	14.86
Total:	58.34	31.85	26.49	67.28	48.00	19.28
Jammu & Kashmir						
Boys :	2.63	21.65	0.98	3.03	2.24	0.79
Girls:	2.33	0.45	1.88	2.69	0.78	1.91
Total:	4.96	2.10	2.86	5.72	3.02	2.70
Madhya Pradesh						
Boys :	21.62	15.54	6.08	24.88	20.00	4.88
Girls:	19.96	4.42	15.54	23.05	10.00	13.05
Total:	41.58	19.96	21.62	47.93	30.00	17.93
Orissa						
Boys :	11.36	9.71	1.65	13.08	10.50	2.58
Girls:	10.87	4.40	6.47	12.56	5.50	7.06
Total:	22.23	14.11	8.12	25.64	16.00	9.64
Rajasthan						
Boys :	14.03	8.99	5.04	16.14	13.90	2.24
Girls:	12.72	2.16	10.56	14.69	7.10	7.59
Total:	26.75	11.15	15.60	30.83	21.00	9.83
Uttar Pradesh						
Boys :	19.77	32.25	17.52	57.29	45.00	12.29
Girls:	44.94	8.68	36.26	51.92	21.50	30.42
Total:	94.71	40.93	53.78	109.21	66.50	42.71

6.9

	1.	2.	3.	4.	5.	6.	7.
TOTAL (1):							
Boys :	129.31	92.60		36.71	148.84	121.64	27.20
Girls:	119.26	27.50		91.76	137.77	62.83	74.89
Total:	248.57	120.10		128.47	286.61	184.52	102.09
All India.							
Boys :	289.91	234.79		55.12	333.73	301.16	32.57
Girls:	271.71	113.17		158.54	313.91	195.19	118.72
Total:	561.62	347.96		213.66	647.64	496.35	151.29
Percentage of the less advanced States to All India.							
Boys :	44.60	39.44		66.60	44.60	40.39	83.51
Girls:	43.89	24.30		57.88	43.89	32.21	63.08
Total:	44.26	34.52		60.13	44.26	37.18	67.48

TABLE NO. XI : MIDDLE STAGE EDUCATION IN THE LESS ADVANCED STATES.

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	1961			1966		
	Total Population in lakhs in the age-group 11-14 (Estimated)	Total Enrolment in Classes VI-VIII. (in lakhs)	Non-attending Children (in lakhs)	Total Population in lakhs in the age-group 11-14 (Estimated)	Total Enrolment in classes VI-VIII. (in lakhs)	Non-attending children (in lakhs)
1.	2.	3.	4.	5.	6.	7.
<b>Bihar</b>						
Boys :	14.28	4.79	9.49	17.81	7.40	10.41
Girls:	14.05	0.56	13.49	17.18	1.85	15.33
Total:	28.33	5.35	22.98	34.99	9.25	25.74
<b>Jammu &amp; Kashmir</b>						
Boys :	1.29	0.48	0.81	1.61	0.72	0.89
Girls:	1.15	0.12	1.03	1.41	0.16	1.25
Total:	2.44	0.60	1.84	3.02	0.88	2.14
<b>Madhya Pradesh</b>						
Boys :	10.33	2.68	7.65	12.88	4.16	8.72
Girls:	9.66	0.49	9.17	11.81	0.80	11.01
Total:	19.99	3.17	16.82	24.69	4.96	19.73
<b>Orissa</b>						
Boys :	5.46	0.95	4.51	6.82	1.36	5.46
Girls:	5.25	0.12	5.13	6.43	0.34	6.09
Total:	10.71	1.07	9.64	13.25	1.70	11.55
<b>Rajasthan</b>						
Boys :	6.86	1.79	5.07	8.56	3.10	5.46
Girls:	6.16	0.28	5.88	7.53	0.75	6.78
Total:	13.02	2.07	10.95	16.09	3.85	12.24

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	1.	2.	3.	4.	5.	6.	7.
Uttar Pradesh							
Boys :	24.16		7.02	17.14	30.12	10.00	20.12
Girls:	22.01		1.22	20.79	26.91	1.60	25.31
Total:	16.17		8.24	37.93	57.03	11.60	45.43
TOTAL (I)							
Boys :	62.38		17.71	44.67	77.80	26.74	51.06
Girls:	58.23		2.79	55.49	71.27	5.50	65.77
Total:	120.66		20.50	100.16	149.07	32.24	116.83
All India							
Boys :	141.56		50.50	91.06	176.57	70.00	106.57
Girls:	134.98		16.03	118.95	165.07	27.48	137.59
Total:	276.54		66.53	210.01	341.64	97.48	244.16
Percent- age of the less ad- vanced States to All India.	Boys : Girls: Total:	44.07 43.18 43.63	35.07 17.40 30.81	49.06 46.65 47.69	44.06 43.18 43.63	38.20 20.01 33.07	47.91 47.80 47.85

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It will be seen from table No.X that, in the age-group 6-11, the total number of non-attending children in the country as a whole was 21.36 million in 1960-61. Of these, as many as 12.85 million or 60.13 per cent were in the six less advanced States whose total population is only 44.54 per cent of the population in the country as a whole. During the Third Five Year Plan, all these six States are making considerable efforts to expand elementary education. Assuming that they fulfil the targets of their third Five Year Plans they would still have the largest number of non-attending children. In 1965-66, the total number of non-attending children in the country would be 15.1 million out of which as many as 10.2 million or 67.48 per cent of the children would have been in these six States only. In other words, the proportion of non-attending children within these six States to the total number of non-attending children in the country as a whole has increased during the third Five Year Plan - from 60.13 percent in 1960-61 to 67.48 percent in 1965-66;

Similar conclusions also can be drawn at the middle school stage (Table No.XI).

(Table No.XII). It is, therefore, evident that unless special efforts of these States are supplemented by special central assistance, the difficult problems of providing free and compulsory education for all children in these States would take much longer to be solved. The situation, it appears, would justify the institution of a special grant-in-aid for the development of elementary education for less advanced States.

(c) Role of the Central and State Governments and Local Bodies:

Article 45 of the Constitution places the responsibility for the provision of free and compulsory education on the 'State'. The word 'State' as used here includes the Government of India, the State Governments and local bodies. It is, therefore, necessary, to define clearly the role of these different agencies if the programme is to be satisfactorily implemented.

There is general agreement on the role to be played by the Federal Government. It has to act as the coordinating and clearing house agency between the State Governments. It should also try to provide the essential leadership for the development of the programme; and above all, it must try to provide equality of educational opportunity as between one State and another by offering special assistance to the less advanced States. Similarly, it is generally agreed that the ultimate responsibility for the development of elementary education rests upon the State Governments subject only to two limitations: the assistance received from the Government of India on the one hand and the responsibility delegated to the local bodies on the other. But there are several controversies relating to the role of local bodies in the development of elementary education. Some thinkers are of the view that elementary education should be administered directly by the State Governments until it is universalised and its standards are sufficiently improved and that its transfer to the control of the local bodies may be considered only after this stage is reached. There are others who argue that the local bodies should be immediately and intimately associated with the administration and development of elementary education and this is reflected in the experiment, in some States, of handing over a large measure of control and responsibility for elementary education to Panchayats. The success or otherwise of the development of universal education in the country is now intimately bound up with the efficiency and zeal with which the local bodies are able to implement the responsibilities that are being entrusted to them.

(d) Legislation: It is also necessary to modernise the legislation regarding compulsory primary education. Most of the compulsory education laws in the country were passed long time ago when there was little practical experience of the enforcement of compulsory attendance. They were based on the assumption that the programme would extend gradually from one area to another.



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In view of the fact that it has been decided to develop the programme quickly and to introduce free and compulsory education for all children in the age-group 6-14 within a specified period, it is necessary to modernise these early laws on compulsory education. The Delhi Primary Education Act, 1960, was passed from this point of view; and the model created by it has since been adopted in the States of Punjab, Andhra Pradesh, Madhya Pradesh, Mysore, Assam and Gujarat.

It is also essential to set up the necessary administrative machinery, under compulsory education laws, for the enforcement of compulsory attendance. This machinery should not be very costly and should be educative, rather than penal, in character. Practical methods for this purpose will have to be evolved and the officials as well as the non-officials who will be involved in the programme will have to be properly oriented. This is one of the major responsibilities which the State Education Departments have to discharge in the immediate future.

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EDUCATION COMMISSION  
GOVERNMENT OF INDIA

FOURTH MEETING  
ITEM NO.5

1. Appointment of Consultants:

The following note has been received from the Union Education Minister:

"Dr. Mulk Raj Anand suggests that Sir Herbert Road, Institute of Contemporary Art, Dover Street, London, might be consulted by the Commission regarding art education. The suggestion is worth considering."

The matter is placed before the Commission for consideration.

2. The following directive issued by the Ministry of Education to the National Council of Educational Research and Training is placed before the Commission for information:

"It has been decided that the National Council of Educational Research and Training should afford full assistance to the Education Commission in the preparation of studies, surveys and research projects. The Commission has set up a number of task forces dealing with different important aspects of Education. These task forces will be drawing upon the specialized knowledge of the various agencies associated with the Ministry and the State Governments, especially the N.C.E.R.T. I have authorized the Member-Secretary of the Commission, Shri J.P. Naik, to transmit the requests of the Commission for any technical assignments coming within the scope of the Council's work to the Joint Director who will kindly make necessary arrangement for assisting the Commission. The Commission's work has high priority and these studies and surveys will also fall into the normal programmes of the Council and its various departments."

J.P. Naik  
Member Secretary  
8.11.1964

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EDUCATION COMMISSION .  
GOVERNMENT OF INDIA

..

Subject:- The problem of languages in Indian  
education and medium of instruction  
at the university stage.

..

The paper placed below gives a brief summary of  
the main findings and recommendations of the following  
Commissions or Committees:

	<u>Pages</u>
1. University Education Commission (1948-49)	1-3
2. Secondary Education Commission (1952-53)	3-4
3. The Official Language Commission (1956)	4-10
4. Committee on Emotional Integration (1960)	10-15
5. Working Group on the Medium of Instruction appointed by the UGC (1959)	15-19
6. Committee on Medium of Instruction (Universities) appointed by the Maharashtra State (1960)	19-22

J.P. Naik  
Member-Secretary

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EDUCATION COMMISSION  
(GOVERNMENT OF INDIA)

Subject: Medium of Instruction at the  
University stage

1. The University Education Commission (1948-49): The problem of the medium of instruction at the university stage was first discussed, in the post-independence period, by the University Education Commission. In the questionnaire issued by it, a separate section was included on this subject and it is reproduced below for convenience of reference :-

VIII. Medium of Instruction

1. The tendency at present is for the various Provincial & regional languages to be employed as media of instruction in the Universities in the relative linguistic areas, displacing English. Do you favour this development?

2. Do you apprehend that solidarity or cultural standards are likely to be adversely affected as a consequence of linguistic 'provincialism' in University education?

3. How would you deal with the problems of inter-University coordination in advanced study and research in the event of regional languages becoming the media of instruction?

4. Do you consider that the experiment made by the Osmania University with Urdu as the medium of instruction has been a success?

5. How would you ensure an adequate supply of standard text-books on various subjects of study in the Indian languages?

6. If you favour a common medium of instruction for all Indian Universities, what languages would you recommend?

7. Are you in favour of the adoption of the Roman Script for all Indian languages?

8. Are you in favour of the adoption of a uniform system of Scientific and Technological terminology for all Indian languages?

9. What in your view ought to be the place of English in Indian Universities

(i) in the immediate future,

(ii) in the long run,

(iii) as a subject of study, and

(iv) as a medium of instruction?

The reply received to this question as well as the oral evidence given before the Commission on this subject has been reproduced, in extenso, in Volume II, Part II of the Report of the Commission (pages 665-814). A perusal of this evidence would greatly assist in understanding the different viewpoints of this issue. It will also show that there has hardly been any shift in public opinion on this problem during the last 17 years, and all the different controversies seem to continue even today on precisely the same lines.

2. The University Education Commission examined the problem of medium of instruction at the University stage in considerable detail in Chapter IX of their Report and made the following recommendations :-

- (1) that Federal Language be developed through the assimilation of words from various sources and the retention of words which have already entered into Indian languages from different sources, thereby avoiding the dangers of exclusiveness.
- (2) that international technical and scientific terminology be adopted, the borrowed words be properly assimilated, their pronunciation be adapted to the phonetic system of the Indian language and their spelling fixed in accordance with the sound symbols of Indian scripts.
- (3) That for the medium of instruction for higher education English be replaced as early as practicable by an Indian language which cannot be Sanskrit on account of vital difficulties.
- (4) that (i) pupils at the higher secondary and university stages be made conversant with three languages - the regional language, the Federal language and English (the last one in order to

acquire the ability to read books in English); and  
(ii) Higher education be imparted through the instrumentality of the regional language with the option to use the Federal language as the medium of instruction either for some subjects or for all subjects.

(5) that for the Federal language one script, Devanagiri be employed and some of its defects be removed.

(6) that immediate steps be taken for developing the Federal and Regional languages:

(i) A Board consisting of scientists and linguists be appointed to prepare a scientific vocabulary of words which will be common to all Indian languages and also to arrange for the preparation of books in different sciences to be rendered into all Indian languages;

(ii) Provincial Governments be required to take steps to introduce the teaching of the Federal language in all classes of higher secondary schools, in degree colleges, and

(7) that English be studied in high schools and in the Universities in order that we may keep in touch with the living stream of ever-growing knowledge.

Secondary Education Commission (1950-53)

3. The problem of languages was also examined by the Secondary Education Commission which recommended that -

'During the Middle School stage, every child should be taught at least two languages. English and Hindi should be introduced at the end of the

Junior Basic stage, subject to the principle that no two languages should be introduced in the same year'.

It has also observed as regards the study of Hindi that- 'In view of its becoming the official language of the Centre and of some States, every pupil at the secondary stage should be given an opportunity of acquiring a basic knowledge of the language and it be left to him to develop it according to his needs. From this point of view it is stressed that Hindi should be taught during the middle school or the senior basic stage'.

Furthermore, with reference to the position of language studies it observes -

'We, however, feel that under present circumstances it should be possible for a child to learn three languages. It is no doubt true the scripts being different the strain will be a little heavy, but we believe that it is easier for the child to learn these languages at an early stage than at a later stage'.

The Official Language Commission (1956)

4. The problem was next examined by the Official Language Commission. The place of languages in the educational system and the medium of instruction at university stage were not really included within the terms of the Official Language Commission, but they were very much related to the problem of the official language which this Commission had to examine. Chapter VI of the Report of the Commission is, therefore, devoted entirely to the discussion of the language problem vis-a-vis educational system. The main recommendations of the Commission on this issue are given below -

33. The problem of language instruction and of

language medium in the educational system is considered in this Report only in so far as it is relatable to the language question of the country. (Paragraph 1).

In view of article 45 of the directive principles of State policy in the Indian Constitution, under which 'the State shall endeavour to provide for free and compulsory education for all children until they complete the age of 14 years; the educational system must be re-orientated to achieve the imparting of sufficient literacy in the Hindi language by the age-limit of 14 years; so that every citizen, if so inclined, may be in a position to comprehend and keep in touch with trends and movements in public life at pan-Indian levels including the activities of the Union Government. (paragraph 3).

34. The children undergoing compulsory education up to the age of 14 years in terms of Article 45 of the Constitution would receive about 8 years of school education, during the whole of which they would have studied the regional language both as a subject and as the medium of instruction for other subjects. It is essential to provide for a medium of three or four years of instruction in Hindi during the later part of this period. (Paragraph 5).

35. Even when English ceases to be the medium of instruction in our Universities, it would be necessary, for a long time to come, to provide that the graduates emerging from our Universities, especially in the scientific-subject and professions, are equipped with a sufficient command of English (or other suitable advanced foreign language) to enable them to comprehend and follow further advances in their particular departments of study through journals and new publications available in such language. (Paragraph 6).



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36. In view of the different purposes that English would now serve in the educational system of the country, it is necessary to review the present teaching methods and the content and character of instruction in English imparted presently. English should be taught hereafter principally as a 'language of comprehension' and not as a literary language, excepting when it is taken as a voluntary subject of special study. (Paragraph 9).

37. It will be for the appropriate authorities after a study of detailed pedagogic considerations to formulate the exact curricula for imparting to students, during the secondary school stage and after, the degree of knowledge in the English language that we consider necessary for Undergraduates and Graduates to possess. Tentatively, it would seem appropriate if instruction in the English language commenced in the secondary school at a stage about five years pre-3.L.C. (Paragraph 9).

38. There may be a suitable 'streaming off' of boys destined to follow further academic education from those who would leave off education at the end of the 14-year age-limit of compulsory education, the instruction in English suggested above being imparted, as a rule, only to the former. (Paragraph 10).

39. The quantum of instruction in the Hindi language which we consider indispensable for students in secondary schools could be imparted to them if instruction in the Hindi language commenced roughly at the close of the primary stage and continues up to the 3.L.C. stage. (Paragraph 11).

40. In our view instruction in Hindi should be compulsory at the secondary school stage all over the country and the arguments for such a course of action are strong and decisive. However reasons of expediency might also have

relevance within particular regions and the decision as to when compulsion should be introduced must be left to be made by the State Government concerned in whose jurisdiction the decision anyhow lies. (Paragraph 12).

41. The suggestion that there should be 'compensatory compulsion' to the students in Hindi-speaking areas in secondary schools to learn another Indian language (a South Indian language) is examined and negatived.

However, the educational authorities in the Hindi-speaking areas should be encouraged to provide facilities for the learning of other Indian languages to the maximum possible extent and, where necessary, special assistance should be made available from governmental sources for this purpose. (Paragraph 13).

42. 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. (Paragraphs 7, 14, 15 and 17).

43. If English is to be displaced as a general medium of university education, the question arises whether it should be replaced by one single common medium, i.e. Hindi in all Universities; or by respective regional languages in the Universities in the different regions. There are certain advantages in a country-wide single

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medium of university education; at the same time there are strong and comprehensive reasons which urge people to seek to replace the English medium by the regional language.

It is not necessary that the change-over of medium should be simultaneously or uniform or monolithic. It may be that some courses of study, say, for instance the humanities, can be more appropriately taught in the regional languages; it may be that for other courses of study the advantages of a common medium in all Universities operate much more powerfully; in yet other faculties it may be preferable, particularly at higher levels, even to continue the English medium: it may also be that in some courses of study, the regional language medium may be adopted for lower levels and a common, i.e. the English or the Hindi language, medium adopted for post-graduate studies. Among other things, the decision of Universities in this regard would depend upon availability of teachers, text-books and other supporting literature in various branches of study.

The whole situation is still fluid and we would advocate that it may be left, in the first instance, to the Universities to judge it after mutual consultation through their customary channels and to decide for themselves what medium or media they would adopt for different courses of study and stages therein. (Paragraphs 17 and 18).

44. Certain minimum arrangements from the point of view of the Language Problem of the country, however, seem to us quite necessary. These may be as under :-

All Universities in any event be required to arrange to examine students offering themselves for any university examination with Hindi as the medium of instruction.

All affiliating Universities should also be under obligation to offer affiliation on equal terms to any colleges or institutions teaching through Hindi as

the medium of instruction for any of their courses in the territorial jurisdiction of the University.

The establishing, in addition, of Central Universities in the non-Hindi-speaking areas, with Hindi as the medium of instruction and allowing Hindi medium institutions situate within jurisdiction of other universities to affiliate to them, would not be necessary if the above-mentioned arrangements are found sufficient to provide affiliation facilities to institutions adopting the medium of Hindi. (Paragraphs 18 and 19).

45. In the case of scientific and technical educational institutions, where students drawn from different linguistic regions avail of the instruction imparted, the common medium of the Hindi language will have to be adopted; where students are drawn exclusively or almost wholly from a single linguistic group, the medium will have to be the regional language concerned. All such cases must be decided pragmatically on the specific merits of each. (Paragraph 22).

46. So far as the question of the linguistic medium of instruction is concerned, the principle of 'autonomy of Universities' can, in the final analysis, have only a qualified bearing and national language policy must ultimately prevail. (Paragraph 23).

47. The supply of text-books for various university courses in Hindi and the regional languages would of course tend to respond to the greater demand for them; nevertheless, it is necessary to provide for effective and co-ordinated action in this field. As for the production of 'reference literature' in these languages, special promotional efforts may be necessary and will have to be organised. (Paragraph 25).

5. The report of the Commission contains some important material which has a bearing on the language

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problem in Indian education. In particular, attention may be invited to the following :-

(1) Chapter II - Language in the Modern World

There is good material regarding relevant experience in certain multilingual countries such as Switzerland, Canada and the U.S.S.R. and of language reform in Turkey, Japan and China.

(2) Chapter III - The Indian Linguistic Scene

(3) Chapter IV - The Indian Language Problem and the Lineaments of a Solution.

(4) Note by Shri S.G. Barve, I.C.S., Secretary, Official Language Commission, of his observations during his short visit of deputation to the U.S.S.R. for a study of the language problem. (Pp. 481-495).

6. The Committee on Emotional Integration has also examined the problem of language and script in chapter V of its Report. It has also discussed the problem of the medium of instruction at the university stage in chapter VII of its Report. The findings of the Committee have been given below for convenience of reference ;

A. Language and Script

1. The use of the Roman script may be permitted in certain areas for an interim period to enable persons to improve their acquaintance with Hindi.
2. Throughout India the international numerals must be used.
3. To reduce the burden of three scripts Hindi may be learnt in the non-Hindi areas in the regional script.
4. To popularise the study of Hindi in non-Hindi-speaking areas a beginning may be made with the publication of Hindi books in the Roman script and the compilation of simple dictionaries in Hindi-Other Languages, also in the Roman script.
5. Hindi books may be published in the regional script and the compilation of Regional Language-Hindi dictionaries should be encouraged.

6. A complete language formula recommended for Hindi and non-Hindi are is given below :

1. HINDI AREA

Standards I-V

- (i) The only compulsory language will be the mother tongue or the regional language (which is the medium of instruction).
- (ii) The study of another Indian language or English may be introduced during this period.

Standards VI-VIII

- (i) The regional language or the mother tongue
- (ii) A modern Indian language other than (i) above, or Sanskrit, or Persian or Arabic.
- (iii) English.

Note: (a) If Hindi is not studied under (i) above, it must be studied under (ii).

(b) If English is studied under (i), Hindi must be studied under (iii)

B. SECONDARY

Standards IX-X

- (i) The regional language or the mother tongue
- (ii) English
- (iii) A modern Indian language other than in (i) above, or Sanskrit or any other classical language, or a foreign language.

Note: (a) Language studied under (i) and (ii) will not be taken under (iii)

(b) If English is studied under (i), Hindi must be studied under (ii).

C. HIGHER SECONDARY/JUNIOR COLLEGE/PRE-UNIVERSITY

Standards XI-XII

University Preparatory Group

Two of the following :

- (i) A modern Indian language other than Hindi
- (ii) English or a modern foreign language
- (iii) A classical language

Vocational or Semi-Vocational Group  
Hindi will be the medium of instruction.  
The study of English or another language, Indian or foreign, depending on the type of occupation to be followed, is compulsory.

## II. NON-HINDI AREA

### A. PRIMARY

#### Standards I-V

- (i) The only compulsory language will be the regional language or the mother tongue (which is the medium of instruction).
- (ii) The study of one of the two link languages, Hindi and English, or any other Indian language may be introduced during this period.

#### Standards VI-VIII

- (i) One of the following :
  - (a) Regional language
  - (b) Mother tongue
  - (c) Combined course of regional language and a classical language.
  - (d) Combined course of mother tongue and a classical language
- (ii) Hindi
- (iii) English

Note: If English is studied under (i), the regional language will be studied under (iii).

### B. SECONDARY

#### Standards IX-X

- (i) The regional language or the mother tongue
- (ii) English or Hindi
- (iii) A modern Indian language or a modern foreign language other than in (i) above, or Sanskrit or a classical language.

Note: The language studied under (iii) should not be the same as under (i) and (ii).

C. HIGHER SECONDARY/JUNIOR COLLEGE/PRE-UNIVERSITY

Standards XI-XII

University Preparatory Group

Two of the following

- (i) Hindi
- (ii) A modern Indian language other than the medium of instruction
- (iii) English

Vocational or Semi-Vocational Group

The regional language will be the medium of instruction.

The study of English or Hindi or another language, Indian or foreign, depending on the type of occupation to be followed, is compulsory.

7. At the high school stage Hindi must be taught in the Devanagari script, keeping in view the Constitutional provision.

8. The two link languages - Hindi and English - should be effectively taught at university level so that conditions of emotional and intellectual isolation are not created.

9. It is necessary to ensure that in implementing any language policy the rights of minorities are adequately protected.

10. Periodic consultations should be held at Central and State levels for eliciting non-official opinion from minority communities on educational policies which concern them.



Medium of Instruction at the University stage:

7.30. 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. We wish to endorse and emphasise what the National Integration Council said at its recent meeting: "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 is a continuous means of communication in the shape of the regional languages between its masses, its artisans, technicians and its university men. The development of talent in the country will also, in the view of the Council, be retarded unless regional languages are employed as media of instruction at the university stage."

7.31 We are not unaware of the practical difficulties involved in the switch-over to regional languages at the university level. Safeguards have to be devised to prevent the lowering of standards. The change-over must be preceded by preparation of textbooks and arrangements for translation from English and wherever possible, other modern world languages. In order to maintain inter-university and inter-State communication, special attention must be paid to the teaching of the link languages - English and Hindi - when the change-over to regional languages is accomplished. We would, however, like to point out that in the name of safeguards, the switch-over should not be delayed indefinitely. It is unfortunate that even after fifteen years of Independence, the country has not progressed far in this direction. The time is overdue for breaking down the barriers that have existed for long between the intellectuals and the masses.

7.32 We have heartily endorsed the view that the medium of instruction at the university level should be in the regional language and that the switch-over should be carried out in a phased and orderly manner, taking care to ensure that standards are safeguarded at every step. But such a switch-over to the regional language creates the need to maintain, if not forge, links between universities in different parts of the country. If special efforts are not made to forge such links, wider gaps will yawn not only between different universities but also between different States.

7.33 It is true that the two link languages - Hindi and English - will be learnt from an early stage, and it is hoped that knowledge of these two languages will provide the arteries of communication between intellectuals in different parts of the country. While English will be an international link, its place as an internal link will gradually be taken by Hindi. There are however certain other assumptions commonly entertained which we shall now consider.

7.34 It is obvious that for purely intellectual purposes students in our universities should have a good knowledge of the English language. The phrase "a working knowledge of English" is generally used. We would prefer university students to 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.

7.35 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.

7.36 There is another reason for having a common medium of instruction in our universities. With our programmes of economic development and industrialisation there will be growing spatial mobility, and linguistic minorities will need such a common medium in the universities all over the country.

7.37 As we have already pointed out, it is necessary, for purposes of emotional integration, to foster mobility of students and teachers. At the university level there is an additional reason for such mobility. It will not be possible for all universities to achieve the highest academic standards in every field of study. We welcome the University Grants Commission's decision to create centres of advanced study and research for particular subjects in different universities. Eminent scholars from abroad should be associated with these centres, wherever necessary. Fellowships should be given to students from all over the country to spend some time at these centres. They will thus become the foci of intellectual excellence as well as emotional integration.

7. Report of the Working Group on the Medium of Instruction Appointed by the University Grants Commission: In 1959.

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the University Grants Commission appointed a Working Group "to examine the problems relating to the change-over in the medium of instruction in universities" as the Commission was interested in assisting universities in bringing about an orderly change, whenever a change was necessary, consistently with the maintenance of standards. The following passage from the Report of this Working Group may be found of interest:-

"Discussions have been going on all over the country about the medium of instruction in universities and the problems connected with a change from English to an Indian language. There would have been no need for these prolonged discussions or difference of view unless there was something in favour of each of the opposite views. Opinions on opposite sides have been hardening and discussions at an objective level seem to be becoming difficult. This Group happily does not have to join the discussion about the desirability of changing over from English medium to either (a) Hindi or (b) to different languages in different regions of India. It seems, however, to be necessary to take note of some of the facts that have emerged during an examination of this question.

- (1) Some universities have already started changing the medium of instruction to the local language or even without such change permit students to answer examination questions in the local language.
- (2) No university except one or two has even considered changing over to Hindi in cases where it is not the regional language.
- (3) The change of the medium has in some cases been implemented with only a short previous preparation for it in the expectation that the necessary steps could be taken concurrently with the change.
- (4) There is a growing feeling that the change-over should not be hastened; this comes largely from the academic section which sometimes is even resistant to the change.
- (5) In many cases the standard of English has been allowed to fall so badly that the younger members of the staff are unable to lecture using correct English and the junior students who cannot understand simple spoken English are somewhat bewildered.

- (6) The desire for hastening the change of the medium has the support of some State Governments and has been strengthened by the division of the States on a linguistic basis.
- (7) In all cases where the medium is being changed or is proposed to be changed it is being stated that English should not only be retained as a subject of study but that special steps should be taken to improve the knowledge of English and in at least one or two States such special steps have been taken already.

It is also necessary to enumerate the main factors urged by those holding opposite views on this question even though the Group will not discuss them. The following are some of the well-known ones:

- (1) The effect of change in the medium on the unity of the country.
- (2) The safety of the country to the extent to which it depends on the possession of scientific and technological knowledge which the rest of the world has.
- (3) The possibility of danger to the country arising out of the technological knowledge which even some small countries may possess if our own country does not possess it too.
- (4) The satisfaction of the individual arising from the sharing of the continuous new thinking of the rest of the world.
- (5) The mother-tongue being the natural and indisputably the best medium for learning.
- (6) The impediments to understanding arising out of the handicap of learning a language which is not locally spoken and the difficulty of securing knowledge through an imperfectly understood medium.
- (7) It is only a small number of people that have to know several languages for All-India and International purposes, while every one need know only his mother tongue besides the regional language if it should happen to be different from the mother tongue.
- (8) The capacity of an individual to learn more than one language when they are not spoken locally; the correctness of the information claimed by persons who assert that it is easy for young persons to learn three or even four languages and the validity of the analogy of countries where an unknown percentage of people learn three or more languages which may or may not be locally spoken.

- (9) The large number of languages that are recognised by our Constitution which on account of their antiquity and wide prevalence rouse strong emotions which have recently been further reinforced by the organisation of the States on a language basis.
- (10) The unavoidable need for at least two languages in India - whether for all or some people only - one for local purposes and another for other than local purposes.
- (11) The need for an All-India language; the advantage which Hindi-speaking people may acquire if the All-India language for official purposes is Hindi and the disadvantages arising thereby to non-Hindi speaking people.
- (12) The advantage of amending the Constitution to enable English being used both for All-India purposes and international purposes not withstanding some valid objections.

As already stated on each of these questions there are strong differences of opinion, but the need for dealing with these objectively is very urgent. Several people in addition to those in academic circles also hold the view that there should be no hastening of the process of changing-over. If a university desires to change its medium no one can or ought to interfere with the desire of the university - not even the State Government which by legislation has established the university, and therefore, has the theoretical power to regulate by legislation various matters connected with the university. But the well established convention is that it is for universities to prescribe the medium and not for legislatures to compel them to change against their better judgment. Academic bodies are best able to judge how the change can be brought about without impairing the quality of teaching and lowering the standards.

The University Grants Commission have asked the Working Group to offer advice in order that the Commission might assist universities in bringing about an orderly change wherever a change was necessary consistently with the maintenance of standards. It appears to the Working Group that while universities can exercise their right of adopting whatever medium they like or feel obliged to use the medium which State Governments may by legislation impose on universities, it does not follow that other universities will recognise the degrees of such universities unless care is taken to maintain standards notwithstanding the change in the medium. Some universities fear that a kind of Gresham's Law may operate with regard to university standards. If for All-India purposes or for any other competitions a degree or a class is material or is the minimum qualification, the pressure is strong for imitating those universities which progressively lower the standards to secure eligibility or qualification for appointments. Local public opinion is vociferous if the acquiring of a degree or the securing of a class is more difficult in the local university than in a neighbouring one. So the race proceeds: It becomes necessary to make

it easier to secure a Ph.D. or an M.Sc. or a first class because of such conditions in a neighbouring university. Similarly, where examination marks are confused with merit and admissions to professional colleges are made by State Governments from students coming out of different universities in the State, there may be a tendency to inflate marks by one university in order that its students may compete on more favourable terms than those of a neighbouring university. This variation in standards might become much greater, more rapid and even incapable of being estimated if the medium of instruction is changed and that too with varying degrees of preparation or no preparation at all.

It is perhaps in these circumstances that the University Grants Commission should come in for the maintenance of standards of higher education. It has powers given for this purpose; its persuasive powers are even stronger than the statutory ones. Universities which seek to maintain high standards naturally look up to the University Grants Commission to protect them in the maintenance of those standards. It would, therefore, be necessary for the University Grants Commission to come into the picture prominently whenever any university is seeking to change its medium of instruction, not for the purpose of preventing that university from doing so but in order to assist it to change in an orderly manner without loss of academic standards.

In an appropriate case the University Grants Commission should appoint expert committees to consider what the effect on the standards of the change-over has been; Where the changes have been made so as to impair standards, the University Grants Commission should use its powers, persuasive as well as legal, to prevent a fall in the standards. This should not operate so as to interfere with the undoubted freedom which a university has, to change its medium. What is more, it is the university's responsibility which it cannot share with Governments or any one else to decide whether the preparation made for effecting a change in the medium is such as to justify its implementation without damage to the standards. The intervention of the University Grants Commission will be appropriate only when a university has not performed its duty or was not free to do so."

Report of the Medium of Instruction(Universities) Committee

Of the Maharashtra State: The Government of Maharashtra

appointed a Committee to examine the problem of medium of instruction in universities under the Chairmanship of

Shri S.R. Dongerkery, Vice-Chancellor, Marathwada University.

The Report of the Committee has since been published. It makes the following recommendations:-

(1) Legislation is neither necessary nor desirable for effecting a change in the medium of instruction (Paragraph 12.4). It should be left to the Universities themselves to decide:

(a) the progressive steps to be taken for bringing about the change,

(b) the phasing of the change according to the branches and stages(under-graduate and post-graduate) of study and subjects, and

(c) the conditions precedent for such change-over, e.g., availability of the necessary literature and qualified teachers and whether they have been fulfilled.

(2) At the under-graduate stage, i.e. up to the first degree Marathi should be an optional medium of instruction and/or examination in universities in the State of Maharashtra. All such universities should have Hindi also as an optional medium. English should continue as a parallel medium until both Marathi and Hindi are sufficiently developed to take the place of English without lowering academic standards. This change should be phased as follows:-

- (1) Arts.
- (2) Social Sciences and Commerce,
- (3) Natural Sciences,
- (4) Agriculture,
- (5) Medicine,
- (6) Engineering and other branches of Technology,
- (7) Law. (Paragraph 12.19).

(3) Bilingualism may also be permitted, i.e., the teaching of some subject or parts of a subject through Marathi or Hindi and some through English. The teaching could be done through the free use of English and Marathi and of English and Hindi, so that the communication of modern knowledge rather than the use of a particular medium of instruction is emphasised. The students should be at liberty to answer questions in the examinations either in English and/or Marathi and in English and/or Hindi, at their option. The same procedure should be adopted for teaching and examinations in Technical Diploma Institutes (Paragraph 12.21).

(4) Post-graduate teaching will have to continue in English for a much longer time until Hindi is sufficiently developed for conveying modern knowledge at the level of post-graduate studies (Paragraph 12.7).

(5) The medium of instruction in legal studies will have to be the same as the authorised language of the High Court of Maharashtra and the Supreme Court. The All India Bar Council should also be consulted before a change is effected in the medium of instruction for courses of study in law. Similarly, the Medical Council of India or similar statutory bodies concerned with standards of professional education should be consulted for courses of study concerned (Paragraph 12.19).

(6) Those Universities which have already adopted Marathi and Hindi as optional media of instruction in the undergraduate courses need not go back on the decisions already taken by them for the substitution of Marathi and/or Hindi for English. This recommendation holds good mutatis mutandis for the S.N.D.T. Women's University which has Gujarati as one of its media of instruction (Paragraph 12.12).

(7) No time schedule can be fixed for the substitution of Marathi and Hindi for English as the medium of instruction in the universities and technical and other institutions of higher learning. It is, however, essential that the progress

made in the production of literature in Marathi and Hindi that can be made available for teaching degree and post-graduate classes as indicated in Recommendation No.10, below should be reviewed by the University concerned at intervals of every five years, with a view to deciding the extent to which the process of substitution can be carried out from time to time (Paragraph 12.17).

(8) In the teaching of subjects in science and technology the terms "in international use", should be adopted with the minimum change, i.e., the basic words employed should be those at present in use in international terminology, although the derivatives may be indianised to the extent necessary. The Indian terms should be common to both Marathi and Hindi (Paragraph 13.7).

(9) While we think that Marathi and Hindi may be introduced as optional media of instruction their efficient use as such will improve only when there is sufficient and growing literature of a high standard including not merely text-books (both translations and original works), but also books which can be recommended for study as reference books in the different branches of study in these languages. We are of the opinion that even when ample literature is produced in these languages, standard books and reference books in English should continue to be recommended for reading side by side with the books in Marathi and Hindi (Paragraph 13.10).

(10) Literature in Hindi could be expected to appear in growing measure as a result of efforts made by the Union Government and the Universities in the Hindi speaking areas. Its production in Maharashtra may involve difficulties for the Universities in Maharashtra. Attempts should continuously be made -

(a) to enrich Marathi literature by giving incentives to able teachers and other experts to produce text-books and original standard works dealing with the subjects of study in the several branches of knowledge by means of subsidies, monetary awards or academic recognition.

(b) to entrust the work of translation from English standard books to those who know both English and Marathi very well.

(c) to publish bilingual journals in different branches of study and include summaries of research papers and successful doctorate theses, especially in scientific subjects in such journals.

(d) to encourage by subsidies or publication grants, the translation into Marathi of doctorate theses in the natural and social sciences submitted by their students in English, and

(e) to pool the resources of the Universities in Maharashtra in men, money and materials for the production of books and general reading material including high class journals in Marathi (Paragraph 13.8).

(11) The training of teachers need not be taken up as a separate activity, as they will acquire the ability and facility to teach in Marathi and Hindi if they freely use



Marathi and Hindi along with English when they teach any subject. They should be encouraged to take part in activities such as (a) delivering extension lectures and writing articles in Marathi and Hindi in university journals and (b) seminars and discussion groups organised by the Universities in Maharashtra, either individually or in collaboration for encouraging the use of Marathi and Hindi as the language of discussion in vacations and if possible even in term-time (Paragraph 13.11).

(12) As subjects of compulsory study, both Marathi and Hindi should be taught to arts, commerce and science students up to and inclusive of the second year of the collegiate course, i.e., the first year of the Three-Year Degree course, or the intermediate class, as the case may be. English should be taught as a compulsory subject up to the first degree. The teaching of these languages in the undergraduate courses should be reorganised by shifting, the emphasis from literature to language, with a view to developing the students' powers of comprehension and expression rather than their acquisition of the knowledge of the literature in the language concerned (Paragraph 9.7).

(13) The teaching of English language and literature should be improved both at the collegiate stage and the stage of secondary education by -

- (a) devoting more time to it,
- (b) adopting improved methods of teaching, and
- (c) engaging well qualified teachers. (Paragraph 12.21).

Each university in Maharashtra should have a Department of English which can provide post-graduate instruction for those who desire to specialise in English with a view to becoming teachers of English in the colleges and secondary schools and conduct and guide research in the teaching of English.

(14) What we have said above about the medium of instruction in the Universities is also applicable to teaching in the technical and other institutions of higher learning. We have not, therefore, referred to these institutions in express terms under each of our recommendations.

EDUCATION COMMISSION  
GOVERNMENT OF INDIA

Medium of Instruction at the University stage

The problem of medium of instruction at the university stage was discussed in the Vice-Chancellors Conference held in New Delhi in 1962. The following are some of the important extracts from the papers and proceedings of this Conference:-

1. Statement issued by the National Integration Conference in September-October 1961

As regards the medium for University education, while a plea was made for the use of Hindi as the medium on an All-India basis, the general view was that the regional languages are bound to replace English as the medium of instruction as soon as the necessary preparations for the change-over could be made acceptable to the academic world. But it was agreed that in such an arrangement, there would be the necessity of a link in the shape of a language understood all over India. It was felt that this link must ultimately be Hindi, but since Hindi, like any other regional language, will take some time for its full development, English will continue to be such a link. This implied that Hindi must continue to be taught as a second language as in the secondary stage of education, where necessary; and it also implied that English, apart from continuing as a transitional link, will remain as a language of international importance for the enrichment of our language in regard to science and technology.

2. Note on medium of instruction circulated to the Conference

Medium of Instruction

The Sampurnanand Committee, in its Report on Emotional Integration has endorsed the recommendations of the National Integration Council: The Committee says:

The importance of having 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. We wish to endorse and emphasise what the National Integration Council said at its recent meeting (June 1962): "India's university

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men will be unable to make their maximum possible contribution to the advancement of learning generally and science and technology in particular, unless there is a continuous means of communication in the shape of the regional languages between its masses, its artisans, technicians and its university men. The development of talent in the country will also, in the view of the Council, be retarded unless regional languages are employed as media of instruction at the University stage.

Further, the Committee summarising its recommendations says:

The use of Indian languages as the medium of instruction from the lowest to the highest stage of education is a matter of profound importance for national integration as only the adoption of regional languages as media of instruction right up to university level will bridge the gap between the intellectual elite and the mass of the people.

Safeguards have to be devised, however, to prevent the lowering of standards.

The change-over to the regional language must be preceded by preparation of text-books and arrangements for translation from English and, wherever possible, from other modern languages.

In order to maintain inter-university and inter-State communication special attention must be paid to the teaching of the link languages, Hindi and English, when the change-over to regional languages is accomplished.

Special efforts must be made to forge links between universities in different parts of the country when the regional languages become media of instruction, or else, wide gaps will be created not only between universities but also between different States.

For purely intellectual purposes students in universities should have a good knowledge of the English language so that they can express themselves with facility. It is necessary, therefore, that they should frequently listen to lectures and write tutorials in English.

To ensure that the universities are not cut off from one another, that common standards are maintained and gifted Indians are enabled to reach the highest degree of excellence in their chosen field of knowledge, there should be provision for English as an associate medium of instruction in the universities. This is a necessary corollary to the recognition of English as an associate official language. The use of this associate medium of instruction can be made in some selected colleges, in a university or in some divisions in a large college. Details in this connection will have to be worked out by the universities to suit varying conditions and requirements.

The recommendations of the National Integration Council (June 1962) are reproduced below:

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 instruction at the university stage.

The Council considers that while generally speaking the replacement of English as medium was thus an inevitable end which should be actively pursued, every care should be taken by universities to ensure that the transition is made without jeopardising the quality of education and after careful preparation, e.g., the cooperation of teachers and the availability of good standard books written by university teachers or other experts for which every incentive should be provided by the authorities concerned.

The Council lays stress on the importance of teaching English as a compulsory subject, whether in any transitional scheme of the adoption of regional languages as medium of instruction, or even after the replacement has been fully carried out at a future date. In the transitional stage, English will serve as the link among university men and between university and university in respect of exchange of professors or migration of students; whilst, at all times, as a language of great international importance, English would furnish a link with the outside world, constitute an indispensable tool for further study and assist in the development of the regional languages.

The Council hopes that while English would thus be an international link at all times, its place as an internal link will gradually be taken by Hindi as it develops. The Council therefore urges that at the university stage, the students should be equipped with a progressively better command of Hindi in addition to a good working knowledge of English such as would enable them to follow lectures delivered in that language.

In the light of these considerations, the Council reiterates the recommendation of the Chief Ministers' Conference that the standard of teaching both in Hindi and English should be improved and maintained at a high level in schools and colleges. The change in the medium of instruction in a university is primarily a question for the university to decide. While it seems natural that regional languages would gradually become the media of instruction at the university stage, the Council sees no reason why there should be any bar to the use of English or Hindi as a medium of instruction in a university, or in some of its colleges. Indeed it foresees that in some special circumstances the establishment of such a college might become a desideratum.

In this connection, the Council urges that there should be a provision in every university permitting the use of Hindi or English as an option to the regional language for answering examination papers.

### 3. Extract from the address of Dr. D.S. Kothari

#### Medium of Instruction:

A few words on the problem of the medium of instruction

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at the university stage may not be out of place. One does not expect that when we discuss a subject such as this one's views will readily be shared by others. It is sometimes heartening to remember that "if education can be defined in one word, that word is controversy; where concord arises, learning withers; where conflict rules, education flourishes". In dealing with the language problem we are concerned with a dynamic and creative situation, and a discussion of the subject will benefit us all provided it is free, frank and objective - and in a conference for dispassionate discussion is a mind receptive and 'utterly at ease'.

It seems that so far as the near future is concerned universities have to function largely on a bilingual basis instead of a monolingual basis, namely, the regional language and English, as recommended by the National Integration Council (June 1962). For post-graduate study and research, and to serve as a link for inter-communication between the universities, and also with the outside world, English is an obvious choice for us in the context of the times. On the other hand, to facilitate understanding of difficult subjects and basic concepts, and to bring together workers and thinkers which is an essential process for advancement of science and industry in the country, the use of regional languages becomes almost a necessity. (Hindi should be taught as a compulsory language at the school stage to serve as a 'communication link' throughout the country.) As the National Integration Council (June 1962) has observed.

"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 instruction at the university stage."

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. The study of Russian should also be on a much more extensive scale than at present.

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

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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 under-graduate 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.

Whatever may be the medium of instruction, it is 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 under-graduate stage), if he so desires. I am thinking - I need not say again - of the near future and not what the position would be, or should be, after some decades. In such a case a teacher would probably have to put in more effort in getting the subject-matter across that if he were lecturing in the students' own language. But the point is that the understanding and grasp of a difficult subject would be much better and creative if it was presented to students in their own language.

Whatever may be the policy and programme of the universities regarding the medium of instruction, it is important that energetic action be taken to produce books and literature, particularly scientific and technical, in the regional languages. This is important for a variety of reasons. It would help to bring together the elite and the mass of the community. It would assist materially in the progress of industrialisation. It would help in the dissemination of science and the scientific outlook.

As the Integration Council has observed, the change in the medium of instruction in a university is primarily a matter for the university concerned. For a variety of reasons and circumstances there cannot be a rigid formula in this matter which could be applied indiscriminately to all the universities. In the transition from English to a regional language as medium of instruction, every precaution should, of course, be taken to ensure maintenance of adequate standards. In fact, the purpose and also the desirability of the change should be judged by the improvement it makes in the quality and standard of education. We must proceed most carefully, but careful action is not synonymous with slow speed or no action at all. In fact, caution is meaningful only if it is tied to a policy of deliberate action.

The importance of a common linguistic link between the Universities cannot be gainsaid, but what is still more important is that they should cooperate in joint programmes of teaching and research, in forging and sharing common aspirations and common aims. We should, with all the energy and enthusiasm we have, develop a corporate intellectual life amongst the universities in the country. And no impediment should be allowed to stand in the way of this process.

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4. Recommendations of the Conference with regard to medium of instruction

The Vice-Chancellors generally endorsed the Resolution adopted by the National Integration Council at their first meeting on June 2 and 3, 1962, which is reproduced below:

"The Council reaffirms the conclusions set out in paragraph 15 of the Statement issued by the National Integration Conference in September-October 1961. The Council recalls that these conclusions did not differ materially from the decisions in regard to the medium of instruction at the University stage arrived at by the Chief Ministers' Conference in August 1961, as also that they had since been accepted by the Emotional Integration Committee in its preliminary report.

The Council observes that the policy in this respect is being implemented in varying measures by different Universities, but it is of the view that its implementation should be more purposeful. In the Council's view, the change is justified not so much by cultural/political sentiments as on the very <sup>or</sup> 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 in the country will also, in the view of the Council, be retarded unless regional languages are employed as media of instruction at the university stage.

The Council considers that while generally speaking the replacement of English as medium was thus an inevitable end which should be actively pursued, every care should be taken by universities to ensure that the transition is made without jeopardising the quality of education and after careful preparation, e.g., the cooperation of teachers and the availability of good standard books written by university teachers or other experts for which every incentive should be provided by the authorities concerned.

The Council lays stress on the importance of teaching English as a compulsory subject, whether in any transitional scheme of the adoption of regional languages as medium of instruction, or even after the replacement has been fully carried out at a future date. In the transitional stage, English will serve as the link among university men and between university and university in respect of exchange of professors or migration of students; whilst, at all times, as a language of great international importance, English would furnish a link with the outside world, constitute an indispensable tool for further study and assist in the development of the regional languages.

The Council hopes that while English would thus be an international link at all times, its place as internal link will gradually be taken by Hindi as it develops. The Council, therefore, urges that at the university stage, the students should be equipped with progressively better command of Hindi in addition to a good working knowledge of English such as would enable them to follow lectures delivered in that language.

In the light of these considerations, the Council reiterates the recommendation of the Chief Ministers Conference

that the standard of teaching both in Hindi and English should be improved and maintained at a high level in schools and colleges.

The change in the medium of instruction in a university is primarily a question for the university to decide. While it seems natural that regional languages would gradually become the media of instruction at the university stage, the Council sees no reason why there should be any bar to the use of English or Hindi as a medium of instruction at the university stage, the Council sees no reason why there should be any bar to the use of English or Hindi as a medium of instruction in a university, or in some of its colleges. Indeed, it foresees that in some special circumstances the establishment of such a college might become a desideratum.

In this connection, the Council urges that there should be a provision in every university permitting the use of Hindi or English as an option to the regional language for answering examination papers". The Committee, however, felt that when and how the switch over should take place should be left to the Universities to decide.

In this connection a point was made that the continued use of English as the medium of examination for the all-India services might retard the development of the regional languages. A view was expressed on the other hand, that even this disadvantage might have to be balanced against the advantage of the convenience of all-India administration which was secured by the use of English as such a medium. Recognising that in the matter of prescribing a medium of instruction in State Universities an option would always be permissible, the hope was expressed that in every State there would be High Schools or colleges giving instruction in English and Hindi for the "floating population" such as the children of Central Government servants, and the children of parents who for any special reasons desire to educate their children in English or Hindi. A fear was expressed that if regional languages were to supplant English as a medium of instruction at the university stage, its probable result would be the weakening of the study and knowledge of English. But the general view seemed to be that this consequence need not follow if the Three-Language Formula was worked with the necessary determination.



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EDUCATION COMMISSION  
GOVERNMENT OF INDIA

Subject: The Study of English in India

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Some time ago the Ministry of Education appointed a Working Group on the study of English in India which has now submitted its report (enclosed). The terms of reference to the Group and its composition will be found on page-1 of the report. It is requested that the Commission may consider this report as a part of its study of the language problem in India.

2. The findings and the recommendations of the Group have been summarised in Chapter VIII (pages 75-94). For convenience of reference, however, the main points raised in this report have been listed below:-

Medium of Instruction at the  
University Stage

3. The Group finds that the continuance of English as a medium of instruction at the university stage while the regional language is current in schools as a medium of instruction is fraught with ruinous consequences to the education itself and recommends that the regional languages should be adopted as media at the university stage in a carefully planned and phased programme which should be over by the end of the Fifth-Plan (1975);

4. The ideal of national education as one which preserves the mobility of students and teachers should be carefully provided for while adopting the regional languages as the media of instruction at the university stage. This can be done by teaching English and Hindi to students so intensively that B.A. special<sup>and M.A.</sup> students would be able to follow lectures in English and Hindi with ease and would be responsive to them as media of instruction, though not of examination. In short, the normal medium

of instruction should be the regional languages; but English and Hindi should be used as associate media of instruction. This will not rule out the possibility that at least a few university teachers could come from other parts of India and assist materially in the migration of students.

5. It is necessary to encourage the study of modern Indian languages at the secondary and university stages so that examiners from outside the region would always be available at the university stage. This is essential for the maintenance of standards.

#### The Pattern of School and College Classes

6. If the teaching of languages is to be done satisfactorily, the pre-university course should be of 12 years, preferably broken up as 4+3+3+2. The last stage of two years before a student enters the university is of very great importance because this can provide an opportunity of giving intensive instruction in English and or Hindi. The degree course should be of 3 years.

#### Three Language Formula

7. At present, the three language formula has been adopted in all States but its working is not satisfactory. It is, therefore, essential to modify it in view of future needs.

8. The new formula for teaching languages at the school stage should be based on the following principles:-

- (a) Throughout the school course of 12 years, the mother-tongue should continue to be studied as a compulsory language from class I to class XII. The time devoted to its study in the last years two years should, however, be reduced in order to make room for an intensive cultivation of English and Hindi.

- (b) In the first four classes, no language other than the mother-tongue should be taught; and while introducing the second and third language, care should be taken to see that no two languages are introduced simultaneously and that there is an adequate time-lag between their introduction to allow for consolidation.
- (c) Taking all things into consideration, the time devoted to the study of English would have to be much larger than that devoted to the study of Hindi or a modern Indian language, especially for those who desire to enter the Universities. The Group feels that university entrants will have to study English for a period of 8 years at school while a study of Hindi for a period of 5 years would be adequate.

9. On the basis of these principles, the Group has suggested a modified three-language formula which is given below:-

A. PRIMARY

Classes I-IV

The only compulsory language at this stage will be the mother-tongue or the regional language which will be the medium of instruction.

Classes V-VII

For non-Hindi speaking areas:

- (i) the mother-tongue or the regional language;
- (ii) one of the two official languages - English or Hindi.

For Hindi-speaking areas:

- (i) The mother-tongue or the regional language;
- (ii) English - or Hindi, if English is already taken as the mother-tongue under (i).

B. SECONDARY

Classes VIII-X

For non-Hindi-speaking areas:

- (i) The mother-tongue or the regional language;
- (ii) English;
- (iii) Hindi.

For Hindi-speaking area:

- (i) The mother-tongue or the regional language;

- (ii) English - or Hindi, if English is already taken as the mother-tongue under (i);
- (iii) A modern Indian language other than Hindi.

HIGHER SECONDARY OR PRE-UNIVERSITY

(1) University Preparatory Group

For non-Hindi-speaking areas:

- (i) The mother-tongue or the regional language;
- (ii) English;
- (iii) Hindi.

For Hindi-speaking areas:

- (i) The mother-tongue or the regional language;
- (ii) English - or Hindi, where English is already taken as the mother-tongue under (i);
- (iii) A modern Indian language other than Hindi.

(2) Vocational or Semi-Vocational Groups:

The mother-tongue or the regional language will be the medium of instruction for these groups as for the others. But it may not be a subject of study. There will be compulsory study of English of Hindi or any other modern European or Indian language, depending on the type of occupation to be followed.

10. The main change proposed by the Group is that at the middle school stage (classes V-VII), the students will be required to study only two languages instead of three as at present - Hindi and English in the Hindi areas, and the mother-tongue and English (or Hindi) in the non-Hindi areas. It is presumed that those who desire to go to the University will take English while most of those who will not continue beyond the middle school stage (or even beyond the secondary) will generally opt for Hindi.

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11. The Group has drawn up a very detailed syllabus for the study of English at the school stage. This has been done for the first time in India and is a very significant contribution. These syllabi would be found in Annexures II-A, II-B, II-C, II-D, III-A, III-B, IV and V.

Teaching of English in Colleges

12. The Group has emphasized the separation between the teaching of English as a language skill and the teaching of English literature at the collegiate stage. In the study of English, which should be compulsory for university students, the first should be emphasised. The second will be studied only by those who opt for English (special) at the university stage. On this basis, the existing courses in the teaching of English at the collegiate stage for B.A. (compulsory), B.A. (special) and M.A. will have to be completely recast.

13. Each Department in a college should have, on its own staff, an additional lecturer or lecturers whose duty it will be to introduce the students to the literature on the subject in English. Provision should be made for this work, for two periods a week; during the first year of the three-year degree course.

14. An important contribution of the Group is the preparation <sup>of</sup> specimen syllabi for the compulsory English course to be included in the three-year degree course at the lower level (which is meant for all students) and also for the higher level (which is meant for those who take special English). These syllabi will be found in Annexures VI, VII and VIII.

15. There is considerable need for research on the problems arising from the teaching of English in India. A degree like M.Ed. should really be conferred on those who do outstanding work in the field of textbooks.

anthologies, simplified books, Teacher's handbooks, work-books, test papers, etc. A research degree need not be insisted on for university teachers of English in the same manner in which it is insisted on for other subjects.

#### Teachers of English

16. The Group has suggested the following qualifications for teachers of English at the school stage:-

(a) Middle School: A graduate with a year's training in a training college; or a person who has completed the higher secondary course, with a year's training in a content and methods course in English.

(b) High School: A graduate with Subsidiary or Principal English and a year's training in a training college; or a person who has graduated after passing the Indian School Certificate Examination and who has been trained in the teaching of English in a special programme for a year; or a graduate who has, in addition to being trained for a year in the methods of teaching English in a training college, also undergone a special content course in English for a year.

(c) The Higher Secondary and Three Year Degree Stage:

A post-graduate degree in English with a diploma in the teaching of English as a second language; or a second class graduate with Principal English and with a Diploma as above (as a transitory measure).

17. The Group has recommended that one of the most important programmes to be undertaken immediately is to upgrade the qualifications of the <sup>existing</sup> teachers of English at the school stage to the level suggested above and to make all the necessary institutional arrangements to prepare the required number of teachers of English in future. The Group estimates that the number of additional teachers of English that will have to be trained for the

whole country during the next ten years is approximately as follows:-

Stage	<u>No. of additional teachers to be trained per years</u>	
	Fourth Plan	Fifth Plan
Middle School	16,000	15,000
High School	7,000	7,000
Higher Secondary or Intermediate	2,800	3,000
Three-Year Degree Course	2,300	2,400

18. For this purpose, the Group has recommended that -

- (a) The Central Institute of English should be expanded and strengthened;
- (b) A State Institute of English should be established in each State;
- (c) The universities should organise a one-year condensed course for those teachers of English in secondary schools who have not taken special English at the degree stage; and
- (d) The establishment of special training schools and training colleges for preparing teachers of English for the middle and secondary schools.

19. The Group has also prepared syllabi for -

- (i) A condensed and method course in English for training schools (Annexure IX); and
- (ii) A specimen syllabus for English methods in the B.Ed. degree course (Annexure X)

20. Special attention is invited to Appendix XIII which describes the place of English in schools in Japan, Turkey, Egypt, Germany and U.S.S.R.

A.R. Dawood  
Member, Education Commission

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Supplementary Agenda  
Item 15 A

Fourth Meeting

THE POLITICAL ASPECTS OF THE  
LANGUAGE PROBLEM IN INDIA

Of all the educational problems created or accentuated during the last seventeen years, probably the most complex and difficult relate to the teaching of languages. These have two aspects: (1) the political decisions taken and the policies adopted on the language issue; and (2) the educational programmes adopted to implement these political decisions and policies. It is obvious that both these aspects are inter-related. For convenience of discussion, however, only the political aspects of the problem have been dealt with in this paper.

Missed Opportunity: Probably, the best solution to the language problem in India would have been the following:-

- (1) The development of all modern Indian languages to the fullest extent possible and their utilisation, to the extent possible or desirable, as media of instruction at all stages of education and also as the language of administration; and
- (2) The development of English as a link language for communication between the intelligentsia of the different States at the national level and also as a means of their communication with the rest of the world.

The basic assumption underlying this proposal is to merge the need for an international language and a national language into one so that every Indian child would have to study only two languages and two scripts; and it was possible to simplify the problem still further by the adoption of the Roman script for all the Indian languages so that every child would have to study only one script and two languages.

Unfortunately, this obvious and simple solution



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was ruled out on purely political considerations. The problem of a link language between the different parts of the country was discussed and decided between 1920 and 1950 -a period when the hatred of the British (and all things British inclusive of the English language) was at its highest. Every political party in the country, therefore, ruled out the possibility of adopting English, either as the link language for the country or as the national language. This decision, which was essentially political, was rationalised on educational grounds also by asserting that the 'people' of India can never learn English and that they would need some Indian language as the common medium of communication with each other. We thus missed a good opportunity to solve the language problem by adoption of English as the link language, both at the national and at the international level and the language problem in India became not bilingual, but trilingual.

Decision on the National Language: Pre-Independence

Period: The adoption of English as the national language having been ruled out on political considerations, the main issue to be faced was to adopt a national language- either by selection from amongst the existing Indian languages, or by the creation of a new language specially designed for the purpose. In the pre-independence days, this problem had to be solved in the context of the overall problem of integrating Hindu and Muslim communities. The Muslims claimed that Urdu was the language of the common man in all parts of India and that it should be accepted as the national language. The Hindus were not mentally prepared to accept this proposal and put forward the claims of Hindi instead on the ground that it was spoken by about 40 per cent of the people and that another 20 -25 per cent spoke languages which were very near to it. The choice before the country was, therefore, between Hindi (with its trend

towards Sanskritisation) in the Devanagari script and Urdu (with its trend to heavy reliance on Arabic and Persian words) in the Arabic script. Ultimately, a compromise formula was evolved which said that the national language should be Hindustani - a new language which had to be created afresh and which was expected to have three characteristics: (1) It should consist of the core of common words between Hindi and Urdu; (2) it should not lean excessively towards either Sanskrit or Arabic and Persian; and (3) it should be written either in the Devnagri or in the Arabic script. This was hardly a solution. At best, it was a superficial compromise to which no one really subscribed but which everyone accepted on political considerations. The situation was also saved by the adventitious circumstance that Hindustani was never put to test by actually becoming a national language; and although several people claimed to speak Hindustani, it had, in practice, as many different brands as the speakers themselves.\*

Decision on the National Language; The Framing of the Constitution (1950): The problem of deciding the national language had, however, to be faced squarely in 1950 when the Constitution was to be adopted. On this occasion, two main schools of thought arose:

(1) One school of thought felt that English should continue as the national language. This was no doubt a small minority. It existed in all parts of the country, and particularly in the South. But the ranks of this group were greatly swelled by those who were not mentally prepared to accept Hindi as the national language. They first put forward their own

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\*In this connection, please see Z.A. Ahmed: A National Language for India, Kitabistan, 1941. It may also be pointed out that the unreality of the Hindi-Urdu-Hindustani controversy is evident from the fact that it was entirely conducted in English- the only lingua franca then known. This is very similar to the Hindi-Punjabi controversy of a later date which is mostly conducted in Urdu.

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alternative proposals and suggested the adoption of Sanskrit or Urdu or Bengali or Hindustani; but finding that such ideas had no chance, they gathered ultimately under the banner of English in their desire to offer a combined opposition to Hindi. They also knew that, in the political temper of the day, the country would not have accepted the proposal to adopt English as the national language, so they pleaded that the decision on the language issue should be postponed for the time being. In the last resort, they pleaded that English should be continued for a fairly long period to allow time to the non-Hindi areas to prepare themselves for the ~~change~~ ~~over~~

(2) The second group of thinkers was in favour of the immediate adoption of Hindi in the Devanagari script as the national language of India. It was apprehensive that any delay in deciding the issue would defeat the cause of Hindi and was, therefore, insistent on reaching an immediate decision - a fact which often made them appear as intolerant and over-hasty.

In this context, it is necessary to understand the broad principles on which a multi-lingual country selects the national language for itself. One obvious principle is to select an existing language which is spoken by the largest number of people and to raise it to the status of the national language. Historically, this has been the commonest technique adopted as, for instance, in the selection of Tagalog in the Philippines, Malayesian in the Malayasia, Bhasha in Indonesia or the Singhalese in Ceylon. It was exactly on this principle that Hindi was singled out to be the national language of India; and if ~~it~~ political, social, cultural and economic factors had intervened, the choice was legitimate and would also have been accepted by all. In the Indian situation, however, there were some very powerful factors to interfere with the decision. For instance,

Hindi was not the best developed modern Indian language. This weakness of language could have been made up if the Hindi leadership had been outstanding and forward-looking so that it could be accepted without challenge by the rest of the country. But this was also not true, except in the case of Pandit JawaharLal Nehru who, however, never identified himself fully with Hindi, and who always pleaded for a permanent and prominent place for English in Indian life. Most of the Hindi leadership was essentially revivalist in its orientation, a typical 'temple-town' leadership, which was so parochial in its outlook that it alienated both the Muslims and the essentially progressive Hindu leadership in all parts of the country. Consequently, the selection of Hindi as the national language ~~resulted in~~ practice, that the middle classes from the Hindi areas would have an unnatural advantage as compared with the middle classes from the other parts of the country who had as good or even better claims to nationalism. It was this basic social, cultural, political and economic conflict between the revivalist and medieval Hindi leadership on the one hand and the progressive modern leadership in the Hindi and non-Hindi areas on the other that really formed the 'substance' behind the Hindi controversy of this period. Unfortunately, the capitalist also played his role in this fight - the Marwari capital generally backing the claims of Hindi while the smaller but more broad-based capital represented by the Chettiars of Madras, Reddis of Andhra, Parsis of Bombay and Banias of Gujarat generally backed the anti-Hindi sentiments.\*

In a situation of this type where the rising middle-classes in different parts of the country are envious of each other, it is impossible to adopt a solution, however

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\*See Hector Abhayavardhan: Political Implications of the Language Problem in India. Seminar, July '60

legitimate on linguistic grounds, which would place one section of these middle-classes in an advantageous position over the others. A better technique of choosing a national language in such a situation is to find out a solution which gives advantages to no group; or in the alternative, places every group at an equal disadvantage. In the Indian situation, therefore, any one of the following two proposals for a national language had a better chance of real success:-

(1) If an Indian language must be selected, to select the language of the smallest group of people and then raise it to the status of a national language so that all the important groups in the country are at an equal disadvantage. There are a few scholars, for instance, who feel that the best national language for India would be Coorgi, because this choice would give an advantage to about one lakh of people at the most and place all other groups at an equal disadvantage; or

(2) To select a non-Indian language as the national language on the ground that it would place every Indian group at an equal disadvantage. It is precisely from this point of view that English becomes the most acceptable link language, especially because it has the additional advantage of giving every Indian group an equal advantage in respect of international relations.

Instead of facing these real issues boldly, the leadership of the day tried to discuss this problem as if it were a purely linguistic issue. The discussions of this period, therefore, lack realism. The main issue at stake was, not a decision on the problem of the national language, but the larger issue of the national leaderships of India with all its social, political, cultural and economic implications. What the country was really discussing was not the merits or demerits of Hindi as a national language, but the vital problem of a succession to British power- whether it should be the revivalists in the Hindi States which formed the least

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progressive group or the progressive elements in all parts of the country. This problem was concealed under the cover of a discussion of linguistic issues. But the heat generated in the discussions- there were as many as 350 amendments to the proposals now embodied in the Constitution- shows that the problem was never linguistic except in a very superficial sense.

The Constitution finally adopted Hindi with the Devangari script as the national language of India. The Hindi leadership thus won its battle. But it had to make two major concessions and take one risk. The concessions were:-

- (1) In order to compensate for the learning of three languages in the non-Hindi areas and to make it clear that it did not want any undue advantage for the Hindi areas, the Hindi leadership agreed to introduce the compulsory study of third modern Indian language in all the schools of the Hindi areas; and
- (2) It also agreed to wait for 15 years and to adopt Hindi as the official language of the Union only after 1965.

The risk involved lay in the alienation of feelings created by acrimonious discussions and debates over the language issue. Speaker after speaker from the non-Hindi areas expressed resentment at the intolerant and narrow outlook of the protagonists of Hindi and although every opponent of the proposal ultimately acquiesced in the final decision of the Central Congress leadership, most of them went back with a bitter taste in the mouth. If possible, they would see to it that these decisions would not be implemented.

The Development of the National Language: The Post-Constitution Period: The events of the post- Constitution period can be appreciated properly against the above background.

An analysis of the last fifteen years clearly

shows that the protagonists of Hindi who won the battle of the national language in 1950 have been losing all along the line ever since and have almost lost the war. Their main demand was to replace English by Hindi. But the idea of 'replacement' seems now to have been abandoned for ever. Antagonism against English has disappeared with the British rule and the people have come to realise the intrinsic cultural, technological and international advantages of the study of English. In fact, English is more popular, in India today than it ever was in the pre-independence period and it is also being learnt by larger numbers and with greater zest. To crown all, English has also been adopted as an associate official language of the Union, without any time limit, under the Official Language Act, 1963 and it is anybody's guess whether it would ever be displaced at all and if so, when. The present indications are that English has secured a permanent place for itself as an associate language of the Union. This is probably as far as the country could have gone, short of amending the Constitution and declaring English to be the official language of India.

The opponents of Hindi have also won another victory. The demand of the Hindi leadership to adopt Hindi as the official language without any further delay has been halted by the decision of the Congress High Command not to press the issue too far against the South. Acharya Vinobaji suggested that the space and time for the adoption of Hindi as the official language of the Union should be determined, not by a majority vote, nor by the dictates of the Hindi leadership, but by the wishes of the non-Hindi areas themselves. This suggestion was also strongly and consistently supported by Pandit Nehru. This has given a temporary set-back to the advance of Hindi no doubt. But it has also assured the non-Hindi areas to a considerable

extent and created a large measure of confidence and goodwill. If this can be followed up by further assurances of equality in social, economic and administrative sectors, the South would feel still more at ease and the cause of national emotional integration would be fostered still further.

There is still another point in which the non-Hindi areas have shown themselves to be better off. Although they have, by and large, opposed the demand to teach Hindi compulsorily, they have been learning it on a voluntary basis on a very large scale. In some of the non-Hindi States, the study of Hindi has been made compulsory at the middle school stage. Madras has refused to make it compulsory; but more than 80 per cent of the children at the middle school and secondary stages are learning it on a voluntary basis. Bengal is probably the only area where Hindi is learnt least; but even there, the extent to which it is popular is surprisingly good. As against this record of 'good behaviour', the North has totally failed in its promises and expectations. In none of the Hindi States is the three-language formula being honestly implemented and the number of persons studying non-Hindi languages - primarily from the South - is almost negligible. If an objective enquiry were to be held, it will be proved beyond a shadow of doubt that the non-Hindi areas have largely risen to the occasion to meet the national demand while the Hindi areas have neither risen to expectations nor kept up their promises.

Even with regard to linguistic development, Hindi has not made as much progress as it should have and some of the other modern Indian languages have made an equal or even better progress. Even today Hindi has not come to occupy a position of undoubted superiority over the other languages which alone would make its acceptance smooth and culturally



feasible. This situation has hurt the protagonists of Hindi who accuse the Government of India for not helping Hindi to develop adequately. On the other hand, the supporters of other languages charge it with step-motherly treatment towards the non-Hindi languages which, in their opinion, would make even better progress if adequate Central assistance can be made available.

All these developments have not been much to the taste of the Hindi leadership which has recently begun to show symptoms of a restless aggressiveness. It has revived its campaign for the early adoption of Hindi as the official language of the Union and for its introduction in the all-India examinations, in the day-to-day affairs of the Central Government, and in the judiciary. It is also accusing Government of being slack or insincere in implementing the provisions of the Constitution. This new aggressiveness is again creating the same tensions and fears in the non-Hindi areas which were so strongly aroused in 1950 and which were only partially eased during the last four or five years.\*

A Programme of Action; We are thus on the brink of a delicate or rather explosive situation. On the one hand, we have a mounting demand **the Hindi areas for a swift** and vigorous implementation of the constitutional provisions regarding the official language of the Union. On the other, we are threatened with the D.M.K. agitation against Hindi in Tamil Nad. An early and satisfactory solution to this situation will have to be found out. In this context, action is needed in three different areas:

- (1) Implementation of the constitutional directives regarding the official language of the Union;
- (2) Development of Hindi; and
- (3) Development of other modern Indian languages

\*For a very critical analysis of the language problem in India, see A Language for India, Seminar, July '60

On the first of these issues, the Government of India must remain firm on some points and should restrain the impatience of the protagonists of Hindi. They should be given to understand the following two issues very clearly;-

(a) While it is true that a properly developed programme of a national language can become the best cementing influence for the country, a badly handled programme on the subject can disrupt national unity more completely than any other single factor. In dealing with the propagation of Hindi in the non-Hindi areas, therefore, we should never talk of compulsion or coercive measures.

(b) The best contribution which the Hindi areas can make to a satisfactory solution of the problem is to implement the three-language formula Universally and sincerely. If they could give a genuine evidence of their desire to understand the South and its languages, the South will not be wanting in making an equitable gesture in return.

We must gradually develop a leadership from the South itself to advance the use of Hindi in non-Hindi areas. A demand to this effect coming from the Hindi areas would be resented. But if it can be put forward, from within the South, by accredited leaders of public opinion, the result will be just the opposite. Such sensible and national leadership exists in abundance at present. What is needed is its careful utilisation.

The South is still suspicious of the <sup>un</sup>natural advantages which the adoption of Hindi in the UPSC examinations will give to the Hindi-speaking States. Some method to allay these fears will have to be found. Two suggestions may be considered in this context: (1) Holding of UPSC examinations simultaneously, not only in English and Hindi, but in English and all the modern Indian languages; and (2) the fixation of quotas in Central Services to different States on some equitable basis such as population.

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With regard to the development of Hindi, the progress made since 1950 has been far from satisfactory. The Hindi areas are rightly unhappy over this. It is, therefore, necessary to enlarge the Central programme for the development and enrichment of Hindi and to put a much bigger drive into it. This will need larger funds no doubt; but the need for a better organisation and a more fruitful leadership is greater.

With regard to the development of other modern Indian languages, the non-Hindi areas have a just grievance that they do not receive adequate financial support from the Government of India. Steps should, therefore, be taken to eliminate this deficiency and financial assistance should be given liberally to State Governments for their programmes to develop the other modern Indian languages. In fact, in this task of development and enrichment, Hindi and the other modern Indian languages should all be treated alike.

It may also be desirable, at an early date, to amend the Constitution and to include English and Sindhi in the Eighth Schedule.

One more point before closing this discussion. The main opposition to the idea of making education a concurrent subject arises from the fear of the non-Hindi States on the language problem. If education were to be concurrent, they fear that Hindi would be forced down their throats by sheer force of a brute majority. A healthy reform in educational development is thus being held up by a fear of its possible misuse in respect of languages. If the cooperation of the States and a 'substance' of concurrency in education is to be secured, it is essential to move cautiously in respect of language reform.

A note on the present position of the medium of instruction in Indian Universities.

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In recent years the problem of a suitable medium of instruction for different stages of education has received considerable attention and provoked a good deal of controversy in various quarters. Several commissions and committees viz. the Wardha Committee or the Zakir Husain Committee (1937), the Committee on the Medium of Instruction at the university stage set up by the Ministry of Education under the chairmanship of Dr. Tara Chand (1948), the University Education Commission (1948-49), the Language Commission (1956), the Kunzru Committee appointed by the University Grants Commission (1957), the Working Group appointed by the University Grants Commission (1959), the Chief Ministers' Conference (1961), the National Integration Conference (1961), the National Integration Council (1962) and the Vice-Chancellors Conference (1962), have considered this question. Of these, the report of the U.G.C. Working Group and the proceedings of the National Integration Council deserve special mention.

The Working Group which examined the problems relating to changes in the media of instruction in Indian universities found the following situation :

(a) Some universities were changing the medium of instruction to the local language. In several universities students were permitted to answer examination papers in the local language.

(b) One or two universities were considering changing over to Hindi even though it was not the regional language.

(c) In some universities, the change of medium had been brought about without adequate preparation.

(d) In many cases the standard of English had been allowed to deteriorate.

The report of the Working Group stressed the need for improvement in the standard of English in the universities even when the medium of instruction is changed to an Indian language. It suggested that for technical subjects at least it might be advantageous to retain English as the medium for some time to come. The Group also suggested that equality of opportunity being one of the most important considerations for all-India competitive examinations, English should continue to be the medium for these examinations or all the languages of India and English should be permitted to be used as media. The report further drew attention to the importance of inter-university communication all over the country and suggested that for some time to come at least such communication should be through English.

The National Integration Council re-affirmed the conclusions set out in the statement issued by the National Integration Conference in October, 1961 to the effect that the regional languages were bound to replace English as the medium of instruction and that in such a situation there would be need for a link language which ultimately could be Hindi. But since Hindi, like any other regional language, would take some time for its development, English could continue to play this part. The Council desired that implementation of the policy in this respect should be more purposeful and that care should be taken by universities to ensure that the transition was made without harm being done to the quality of education. The Council also laid stress on the importance of teaching English as a compulsory

subject, not only in the transitional period but even after its replacement by regional languages as the media of instruction.

The Vice Chancellors' Conference held in New Delhi on October 11-13, 1962, also considered the problem of medium of instruction. The Vice Chancellors generally endorsed the resolution adopted by the National Integration Council. In this connection a point was made that the continued use of English as the medium of examination for the all-India services might retard the development of the regional languages. A view was expressed on the other hand, that this disadvantage has to be balanced against the convenience of an all-India administration secured through the use of English. Recognising that in the matter of prescribing a medium of instruction in State universities an option would always be permissible, the hope was expressed that in every State there would be High Schools or colleges giving instruction in English and Hindi for the "floating population" such as the children of Central Government servants, and the children of parents who for any special reasons desire to educate their children in English or Hindi. It was, however, feared that if regional languages were to supplant English as a medium of instruction at the university stage, its probable result would be the weakening of the study and knowledge of English. But the general view seemed to be that this consequence need not follow if the Three-Language Formula was worked with the determination.

The Standards Committee appointed by the University Grants Commission considered it essential to make an enquiry in regard to the medium of instruction to have the up-to-date position ascertained. The replies received from 50 universities and 3 institutions deemed to be universities under Section 3 of the UGC Act are summarised in the statements given in Appendices A, B and C. Appendix A gives the position in regard to the medium of instruction and examinations in a tabular form. Appendix B gives an analysis of the replies received from the universities and Appendix C of the opinions expressed by Vice-Chancellors of the universities.

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## APPENDIX A

Medium of Instruction and Examination

1.No.	University	Postgraduate	Undergraduate			Remarks
			Arts	Science	Commerce	
1.	Agra	E/H*	E/H	-	-	* In Arts subject only.
2.	Aligarh	E	E	E	E	-
3.	Allahabad	E/H*	E/H	E	-	* In Arts Subject only.
4.	Andhra	E	E	E	E	-
5.	Annamalai	E	E	E	E	-
6.	Banaras	E/H*	E/H	E	-	* In Arts and Commerce only.
7.	Baroda	E	E	E	E	-
8.	Bhagalpur	E*	H	H	H	*Hindi has been prescribed as the medium of instruction and examination according to a phased programme.
9.	Bihar	E	H-EBOU	H-EBOU	H-EBOU	-
10.	Bombay	E	E	E	E	-
11.	Burdwan	E	E/B	E/B	E/B	Students are allowed in some papers to answer in Bengali at the undergraduate level.
12.	Calcutta	E	E/R	E/R	E/R	The medium of instruction in the Bachelor's (Honours) courses is English.
13.	Delhi	E	E	E	E	Hindi is also allowed in B.A. Pass in Economics, Politics, Philosophy & History.
14.	Gauhati	E	E	E	E	-

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	1	2	3	4	5	6	7
14. Gorakhpur	E*		H		E-H	E-H	*Candidates have the option to answer in Hindi.
15. Gujarat	E*		G		G	G	Postgraduate teaching is done largely through English but an appreciable number of students in Humanities use Gujarati as the medium of examination.
17. Gurukul Kangri			Hindi and Sanskrit				In Science Subjects English is the medium of instruction.
18. I.A.R.I., New Delhi							The medium of instruction is English.
19. I.S.I.S., New Delhi							The medium of instruction is English.
20. I.I.Sc., Bangalore							The medium of instruction is English.
21. Jabalpur	E-H		E/H		E/H	E/H	
22. Jadavpur	E		E		E	E	In certain papers both at the undergraduate and postgraduate levels students are permitted to answer in the regional languages.
23. Jammu & Kashmir	E		E		E	E	
24. Jodhpur	E-H		H		H	H	
25. Kalyani	E		E		E	E	
26. Karnatak	E		E		E	E	If there are a few students who choose the regional language as their medium, teachers explain to them in that language.
27. Kerala	E		E		E	E	
28. Kurushetra	E		E		E	E	Option is given to use other languages in examinations.

	1	2	3	4	5	6	7
0.	Madras	E		E	E	E	2 or 3 Colleges have attempted to switch on to Tamil which is in an experimental stage.
1.	Marathwada	E		E-MH	E-MH	E-MH	-
2.	Mysore	E		E/K	E/K	E/K	-
3.	Nagpur	(E/H/M for M.A.) E for M.Sc.)		E/H/M	E/H/M	E/H/M	-
4.	North Bengal	E		E/B	E/B	E/B	-
5.	Osmania	E		E/H/T/U	-	-	-
6.	Panjab	E		E/H/P/U	E	-	-
7.	Panjabi	-		-	-	-	The Act provides for the gradual adoption of Panjabi as the medium of instruction and examination for as many subjects as possible.
8.	Patna	E		H	H	H	-
9.	Poona	E		E/M	E/M	E/M	It is the policy of the University to permit the use of Marathi as the Medium of instruction and examination upto a certain level.
10.	Rabindra Bharati	-		B/E	-	-	-
11.	Rajasthan	E/H		E/H	E/H	E/H	-
12.	Rajasthan Agricultural		The medium is English				-
13.	Ranchi	-		H-EOBU	H-EOBU	H-EOBU	-
14.	Roorkee		The medium is English.				-



1	2	3	4	5	6	7
44.	S.V. Vidyapeeth	-	H-EG	H-EG	H-EG	-
45.	Saugar	E/H*	H	H	H	*Hindi is allowed in Arts & Commerce faculties.
46.	Shivaji	E	E/M	E/M	E/M	-
47.	S.N.D.T. Women's.	(G/M-M.A.) (E-M.Sc.)	G/M/H	(-Nursing) (G/M/E-Home Science)	-	At the Postgraduate level, students are given the option to offer English as the medium of examination.
48.	Sri Venketeswara	E	E	E	E	-
49.	U.P. Agricultural	E	-	E	-	-
50.	Utkal	E	E	E	E	-
51.	Varanaseya Sanskrit		Hindi and Sanskrit			-
52.	Vikram	E-H*	H	E/H	H	*In Arts and Commerce faculties.
53.	Vishva Bharati	E	E	E	-	Bengali is used as & when convenient.

- Notations:-

- E/H or H/E.

The medium of instruction is either English or Hindi

E-H

The medium of instruction is English but option is given to use Hindi in examination.

E

The medium of instruction is English.

H-EBOU

The medium of instruction is Hindi but option is given to use English, Bengali, Oriya or Urdu as the medium of examination.

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Notations:-

G	The medium of instruction is Gujarati.
E-MH	The medium of instruction is English but option is given to use Marathi or Hindi as the medium of examination.
E/H/M	The medium of instruction is either English or Hindi or Marathi.
E/B or B/E	The medium of instruction is either English or Bengali.
E/H/T/U	The medium of instruction is either English or Hindi or Telugu or Urdu.
E/H/P/U	The medium of instruction is either English or Hindi or Panjabi or Urdu.
H-EG	The medium of instruction is Hindi but option is given to use English or Gujarati as medium of examination.
G/M/H	The medium of instruction is either Gujarati or Marathi or Hindi.
E/M	The medium of instruction is English or Marathi.
E/K	The medium of instruction is English or Kannada
E/R	The medium of instruction is English or the regional language.

APPENDIX B

MEDIUM OF INSTRUCTION

1. Agra The media of instruction are English and Hindi for B.A. and M.A.
2. Aligarh The medium of instruction and examination is English.
3. Allahabad In language classes, the teaching and examination are through the respective languages. In other subjects, in the faculty of Arts, for postgraduate classes the teaching is done through English but students have the option to answer the questions through English or Hindi. In undergraduate classes, the teaching and examinations have both English and Hindi media. The media of teaching and examinations in the faculty of science are English.
4. Andhra The medium of instruction in examination is English. If the medium of instruction were to be the regional or any other language, they are not enough for suitable textbooks. A special course in the English language is needed at the pre-university level.
5. Annamalai English in all cases.
6. Banaras For pre-university in Arts/Science - English & Hindi.  
For first degree in Arts - English and Hindi.  
For first degree in Science/Technology - English  
For M.A./M.Sc. & other post-graduate classes - English
7. Bhagalpur The medium of instruction in all non-language subjects for B.A./B.Sc. and B.Com is Hindi. For other examinations the medium for non-language subjects is English.
8. Burdwan The medium of instruction is English. At the under-graduate level however, the teachers are free to use Bengali or English as the medium of instruction and students are also allowed to answer in some papers in Bengali or in English.
9. Baroda Faculty of Arts - English  
Faculty of Science - English  
Faculty of Commerce - medium of instruction is English but in the pre-university classes students are given the option to answer through the regional language.
10. Bihar Medium of Instruction ( ) Medium of examination  
(a) Pre-university - Hindi English, Bengali, Oriya and Urdu.

- (b) Bachelor's degree Hindi English, Bengali, Oriya and Urdu.
- (c) Master's degree English English
- (d) Professional courses English English
11. Bombay Medium of instruction and examination at all levels is English.
12. Calcutta For Master's degree course and Bachelor's degree (Hons) course - English
- For pre-university and Bachelor's degree Pass course - English and regional languages.
13. Delhi Graduate level - English. In addition to English Hindi is also allowed in B.A. Pass for the following subjects - Economics, Pol. Science, Philosophy and History.
- M.A. & M.Sc. - The medium of instruction is English.
14. Gauhati The medium of instruction and examination is English.
15. Gorakhpur Bachelor's degree in Arts - Hindi
- Master's degree - English except in languages.
- B.Sc., B.Com., B.E., LL.B. - English. Candidates have the option to answer in Hindi or English.
16. Gujarat. The university has adopted the policy of progressively introducing Gujarati as the medium of instruction and examinations. The present position is that majority of teachers and students use Gujarati as the medium of instruction and examination at undergraduate level. Postgraduate teaching is done largely through English but an appreciable number of students in the subjects of Humanities use Gujarati as the medium of examination.
17. Gurukul Kangri, Hardwar.
- (a) Sanskrit - In Sanskrit literature and Eastern Philosophy.
- (b) English - In English literature and science subjects.
- (c) Hindi - In other subjects.

18. I.I.Sc. Bangalore. The medium of instruction is English.
19. Indian Agricultural Research Institute, New Delhi. The medium of instruction is English.
20. Indian School of International Studies, New Delhi. The medium of instruction is English.
21. Jabalpur For Bachelor's degree - English and Hindi  
For Master's degree - English only.  
The medium of teaching and examination is the same in undergraduate classes. At the post-graduate level the medium of teaching is English but the medium of examination is either English or Hindi.
22. Jodhpur The medium of instruction is English at all levels. In certain papers both at the undergraduate and postgraduate levels students are permitted to answer in the regional languages.
23. Jammu & Kashmir The medium of instruction and examination is English.
24. Jodhpur In the postgraduate classes, except in Hindi and Sanskrit, generally the medium of instruction is English. Hindi is the medium upto the degree level. Students are allowed to use Hindi for answering questions.
25. Kalyani The medium of instruction and examination is English.
26. Karnatak By and large, English continues to be sole medium of instruction for all the courses. However, if there are a few students who choose the regional language as their medium, teachers explain to them in that language.
27. Kurukshetra The medium of instruction is English in all subjects other than languages. The medium of examination and instruction are not the same at the Graduate level.
28. Kerala The medium of instruction and examination is English.
29. Madras The medium of instruction is English. Two or three colleges have attempted to switch on to the Tamil medium for the teaching of some subjects in the Humanities which is in an experimental stage.

30. Marathwada The English is the medium of instruction but students upto the degree level are allowed to write their answers in Marathi and Hindustani.
31. Mysore English is the medium of instruction. Kannada is approved as the medium at pre-university course and degree levels on an optional basis.
32. Nagpur  
Pre-University - English, Hindi and Marathi.  
Bachelor's degree - English, Hindi and Marathi.  
Postgraduate - English  
Professional:  
Pre-Con.B.Con.Dip.Ed  
and B.Ed. - Hindi and Marathi, English for the remaining subjects.
33. North Bengal  
Pre-University - Bengali and English  
Bachelor's degree - Bengali and English  
Master's degree - English
34. Osmania For pre-university and B.A. the media of instruction are English, Hindustani, Telugu and Urdu, and for Master's degree English only.
35. Panjab English is the medium of instruction and examination in science subjects at all levels. In other subjects, use of Hindi, Panjabi and Urdu is permissible upto the undergraduate stage.
36. Patna For pre-university and degree classes the medium of instruction is Hindi and for professional and Master's degrees it is English.
37. Panjabi The Act provides for the gradual adoption of Panjabi as medium of instruction and examination for as many subjects as possible.
38. Poona It is the policy of the university to permit the use of Marathi as medium of instruction and examination upto a certain level. Accordingly instruction is allowed to be provided in English and Marathi upto the degree level. English is the compulsory medium for the courses leading to Master's degree.
39. Rabindra Bharati. Bengali is used as medium of instruction and examination for the Diploma and degree courses, the option of using English is permissible.
40. Rajasthan The medium of instruction is both Hindi and English.
41. Ranchi  
Pre-university - Hindi  
Bachelor's degree - Hindi (except in professional courses). In the undergraduate courses students have the option of answering in Hindi or English or Bengali or Oriya or Urdu.

42. Roorkee The medium is English
43. Rajasthan Agricultural - The medium is English
44. U.P. Agricultural The medium of instruction is English.
45. Utkal Medium of instruction is English.
46. S.V.Vidyapeeth - Hindi with option to use English or Gujarati for all courses of study leading to degree examination, except for B.Sc. (Dairy technology) and B.Sc. (Vet.Sc.) in which it shall be English upto June 1964 and thereafter Hindi with option to use English or Gujarati.
47. Shivaji English and Marathi upto Bachelor's degree and English for Master's degree.
48. Saugar B.A., B.Sc., B.Com. - Hindi  
M.A., M.Com. - Hindi and English  
Other subjects - English
49. S.N.D.T. Women's B.A. - Gujarati, Marathi and Hindi  
M.A. - Gujarati, Marathi.  
B.Sc. Nursing - English  
B.Sc. Home Science - Gujarati, Marathi, English.  
M.Sc. Home Science - English The students are permitted to offer English as the medium of examination if their mother tongue is other than Gujarati, Marathi and Hindi. At the post-graduate level all students are given the option to offer English as the medium of examination.
50. Sri Venkateswara - The medium of instruction and examination is English.
51. Varanaseya Sanskrit Vishvavidyalaya - Hindi and Sanskrit for all subjects except additional English.
52. Vikran

<u>Faculty</u>	<u>Undergraduates</u>	<u>Postgraduates</u>	<u>Remarks</u>
Arts	Hindi	English	Except language subjects
Science	Hindi & English	English	- do -
Commerce	Hindi	English	- do -
Education	Hindi & English	English	- do -
Physical Education	English	-	- do -
Engineering	English	-	- do -
Agriculture	English	English	- do -
Vet.Sc. & A.H.	English	English	- do -
Medicine	English	English	- do -
53. Visva Bharati	In B.A./B.Sc. (Hons), B.Ed. and M.A. (Hons) the medium of instruction is English. Bengali is used as and when convenient.		

Appendix C

A summary of the replies received from the  
Vice-Chancellors of Indian Universities.

E. MEDIUM OF INSTRUCTION :

Aligarh:

It is the definite policy of the university to use English as the medium of instruction for its graduate and post-graduate classes. We have come to the conclusion that English is entitled to be considered as one of the Indian languages. To study English is no more unnatural, than to believe in the universal nature of man is unnatural in the atomic world of today.

Allahabad:

The medium of instruction has also adversely affected the standard. Students with a good knowledge of English get large number of books from the library while the students using Hindi medium have to be satisfied with only one or two books which are mere translations. For higher standard, the store of knowledge in the library has to be freely drawn upon. Whatever may be the medium, good knowledge of English is essential.

Andhra :

There can hardly be any scope for doubt or discussion, because, after a 150 years of the fashioning of the instrument and with a few thousands of libraries and laboratories being built up in terms of English and without Indian languages so utterly ill-equipped for purposes of elucidation and explication, we have to keep on with English.

Annamalai:

English should be the medium of instruction at the university stage.



Banaras :

The medium of instruction should continue to be English for some time to come. Unless adequate number of standard text-books are available it is never advisable to restrict instruction through Hindi medium or that of regional languages. Availability of books and competent lecturers are the two essential pre-requisites for changeover from English to Regional languages.

Gauhati :

The medium of instruction should never be imposed from above. In single language areas, the regional language should be increasingly used. But all students should have 2 or 3 compulsory lectures per week in English and also in Hindi, to improve their understanding.

Gorakhpur :

It is necessary that the students are well-versed at least in two languages viz., Hindi and English.

Karnatak :

English will have to be the medium of instruction for many years to come.

Nagadh :

Medium of instruction may be Hindi or any other regional language at the under-graduate stage. But it should be English at the Honours and post-graduate stage for several years to come.

M. S. University of Baroda :

Faculty of Sciences :

English will have to continue for quite sometime as the medium of instruction in the universities, especially in the Science subjects. It is desirable that the teaching of English is strengthened in the schools and also rapid courses of 3 months in English are started in the universities.

Faculty of Commerce :

It is necessary to ensure an adequate knowledge of English.

Faculty of Engineering & Technology :

English for the present; Hindi at a later stage.

Marathwada :

Regional language should be introduced as the medium of instruction at the undergraduate stage and the students' knowledge of English should be improved by considerable

modifications in the method of teaching it as a second language and by paying special attention to the teaching of English at the college stage.

Osmania:

Faculty of Arts:

The medium of instruction at the university should be English and the methods of teaching at the school stage should be improved.

Faculty of Science:

The teaching of Science subjects should continue in English at the university stage. The change of medium from secondary school to university level results in deterioration of standards.

Faculty of Commerce:

English should continue as the medium of instruction.

Panjab

Medium of instruction should remain English for natural and physical sciences, medical science and technology for some time.

Punjabi:

Progressive use of regional language should be made.

Rabindra Bharati:

English may be used until the regional language is in a position to replace it.

Rajasthan Agricultural:

English is sufficiently rich to form suitable medium of instruction for teaching.

Rajasthan:

English as medium of instruction should continue. At the same time energetic action is needed through production of regional books and translation of standard works to enrich the national and regional languages so that the change in the medium of instruction is effected without lowering of standards.

Roorkee:

It appears that it is inevitable to continue with English until the present deficiencies are set right.

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Saugar : English or Hindi.

S.N.D.T. Women's : Students should receive their instruction in mother tongue. Realising the importance of English, it has been prescribed as an additional medium of examination for post-graduate classes and it is the sole medium of examination for the B.Sc. (Hons) students.

Utkal : Theoretically one's mother tongue is the best medium of instruction. Till such time as the standard books are available in regional languages it is difficult to change the medium without lowering of the standards. One must also take into account the promotion of national integration. Even a little sacrifice of the standards may be tolerated in the interest of national solidarity.

Vikram : Ultimately the medium of instruction is going to be a regional language. To ensure that there is a free flow of man and ideas from one region to another, steps should be taken to promote the study of Hindi in other regions so that it can replace English in due course.

Visva-Bharati : Medium of instruction should be alternatively regional language or English for the coming few years and regional language after sufficient books are available. But there should be one or two universities where the medium of instruction should remain English even after that.

The Medium of Instruction at the University

By

Professor Amlan Datta  
Department of Economics,  
Calcutta University..

My chief concern in this note is with the medium of instruction at the University; but university education derives its special character and functions from being part of a whole, and I find it necessary to state very briefly how I expect these two to stand in relation to each other in the coming years before I can discuss meaningfully the issues with which I am more directly concerned.

The Government of India intends to make primary education available to the masses of people in the near future. In secondary education a substantial increase in numbers can be safely forecast; but perhaps the most important change to be expected is a change in quality, including, for instance, an increasing emphasis on mathematics and the basic sciences. This also makes it necessary that a system of twelve years of school-education be established before long. As a matter of fact these trends are already visible. It will be utopian to expect higher education to be widespread in the coming years. Among those who will receive primary education only a small fraction will go much further. A larger number will simply have a few years of schooling followed possibly by vocational and on-the-job training; these will supply our growing need for skilled and semi-skilled labour. A comparatively small section of the school population will join the universities; from their ranks will come administrators, scientists, engineers, teachers, and people pursuing other liberal professions. A developing country has continuously to borrow knowledge the techniques from the more advanced countries and adapt these to its own needs. University people will be expected to keep wide open the channels of communication with the rest of the world. In a democratic community and in a period of massive social and economic transformation it is also necessary that ideas initiated at the top are constantly interpreted to the common people. There is yet another matter which deserves special mention. In a period of transition, stresses and strains develop within a community and tend to disrupt its unity. People with higher education are expected to provide that wider outlook and broad framework of values within which localism can be kept under check and order can be combined with progress. I believe that this picture of a broad base of mass literacy, a narrow apex of higher education, and a great deal of regional fixity\* at the bottom is a realistic model of Indian in the coming decade.

That the mother tongue should be medium of instruction for those who will never go in for higher education seems to be an obviously sound idea. More controversially, I would add that there are good reasons for retaining the mother tongue as a medium of instruction at all the higher levels of education. Some progress has already been made in this direction; more is necessary. Two reasons in particular have been put forward for making the mother tongue a vehicle of higher education, and I find both eminently sensible. Let us consider them briefly.

Much of our education today is plagued by "verbalism". Words mean more to us than ideas. Words stand between us and life and its problems. Now this is partly the predicament of

\* Even in more developed countries like Britain there is a great deal of regional immobility of labour. It would be unrealistic to expect the situation to be quite different in India.

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all stagnant societies, but in our case the situation is further complicated by the fact that knowledge is presented to us in a foreign language. In their foreign garb words come to us like magic formulae. From this follows a variety of vices. We pile up words endlessly and repetitiously, taking pleasure in them for their own sake or for their quaintness, without caring to achieve a progression of ideas. Propositions are cut off from their practical application. Thus words cease to convey real knowledge; they become a substitute for knowledge rather than an aid to it. I am not suggesting that all this will disappear as soon as we express our thought in the mother tongue. Nor shall I deny that some people have expressed very good thought in a tongue which is not their own. But there are very few people who can express themselves creatively or expound anything like original ideas in a foreign language without being able to do the same in the mother tongue, while there are many who are capable of effective expression in the mother tongue but not in a foreign language. The mother tongue has a number of advantages for whoever has not been alienated from it early in life by special circumstances. Its rules of grammar and syntax are not imposed on us as by an external authority. It is enriched by association with childhood and life experiences. Its words have a certain transparency, while foreign words have often to be translated back into corresponding words in one's mother tongue before they can focus on real objects or ideas. Writing in a foreign language one is apt to be constrained by an underlying, often not fully conscious, lack of assurance, which makes one overly cautious and too ready to turn to clichés for safety. The mother tongue is an aid to boldness of thought. There are some very good arguments for comparing the mother tongue with at least one other language, about which we will say more later; but it is a pity to have to discard the mother tongue.

There is a second major argument for retaining the mother tongue, or the principal regional language, as a medium of instruction at the higher levels of education. Between the great body of our common citizens and the minority of people with higher education there must be no insuperable barrier any more than what the content of higher learning makes inevitable. Let us take a closer look at the argument. In higher physics, philosophy, or even economics there are issues in which the common man is unlikely to be interested, whatever the language in which these issues are discussed. But the questions debated by physicists, philosophers, and economists have often some bearing, direct or indirect, on matters which concern the common man or in which he can be made to take interest. A democratic society must endeavour all the time to interpret the abstract and the remote in terms of the concrete and proximate interests of common people. The interpreters, even when they are not original thinkers themselves, must come from the highest educated sections of the community. Tolstoy may have overstated the point, and, in any case, the proposition may not hold good for every individual considered separately, but an intellectual elite which refuses to bind itself by sympathy to the rest of the community and share some of its concerns cannot escape long a devitalization of its moral life. Communication is impossible without something approaching a common language. It is necessary that scientific knowledge be made available to ordinary citizens in an intelligible form and that problems of common interest in social and political life be similarly discussed by specialists for a wide audience. For all these reasons the bond of a common language between the more educated sections and the less educated is necessary. Moreover, the less educated must have

the opportunity to rise higher in the scale of education, and it is desirable that his progress is not suddenly obstructed by a barrier of language. This can be more easily assured if the mother tongue, having been adopted as the medium of instruction at earlier stages of education, is never altogether discarded.

There is one oft-heard objection to the adoption of the regional language as a medium of instruction at the university which we might as well consider at this stage. It has been argued that our regional languages are too undeveloped and textbooks for university students cannot be written in them. More particularly, they are considered to be unsuitable for the writing of textbooks on the sciences. The argument, if valid, would be weighty, since the emphasis on the sciences is going to grow with the years. But is the objection valid? It is well known that one of our greatest scientists, now a national professor, has taught science in the regional language at the university level in Calcutta. It might be thought that this is a feat possible only for a genius. But is that all that there is to it? It is perhaps easier to teach Western science in our regional languages than Western philosophy. Technical terms in science and technology can be more easily adopted in the Indian languages without any important change than philosophical terms. Scientific relations are exact and unambiguous, while language in the humanities is more overlaid with ambiguity and a rich suggestiveness which is difficult to convey in a different medium. Once the terms have been carefully defined, scientific propositions can be set forth in a different language with greater ease. On the other hand, we have in philosophy the advantage of tradition of dialectical discourse and metaphysical speculation. This is a sufficient basis to build upon. For the rest, demand for the new kind of literature in the Indian languages can be depended upon to create the necessary supply.

Thus there is a good case for adopting the mother tongue, or the regional language, as medium of instruction at the university. But there is also an overwhelming objection to making 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/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 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 Hind-speaking people gain more in the domain of higher education by adopting English as a second language or by adopting a second Indian 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 at 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, Russia 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 Russia has to an Uzbek.

Let us clearly recognise the limitation of English as a medium of instruction. English is not, and can never be, a medium of mass education in India. Only the mother tongue can be such a medium. Among peasants a majority remain more or less rooted to the soil, except for occasional journeys or pilgrimages. Their life's work is carried on in the mother tongue, which is the only language in which effective communication can be established with them. With the growth of education what they will need is not so much a common language of communication with distant parts of the country, as an increasing supply of knowledge available in their own language. If it is still desired that the whole country should have some rudimentary knowledge of Hindi. This can be done by making Hindi compulsory study at some stage in school for a limited period. As a matter of fact, this is already the practice. But outside the Hindi-speaking areas it would not be advisable from a strictly educational point of view to adopt Hindi as the common medium of instruction at the University, since English would serve this purpose better for reasons we have indicated above. To elect Hindi as the common medium of instruction at all universities in India would be to sacrifice educational considerations to political.

Let us summarise. Mass education should be through the medium of the mother tongue wherever this is possible. The mother tongue should also be one of the medium of instruction at the university, and so serve as a link between people of higher education with greater mobility and those who work at the base and have stronger ties with the soil. English should function as the common medium of instruction at the major universities and thus guarantee two things at the same time, viz., the internal unity of academic life of the country and uninterrupted intercourse with the rest of the world. At the same time, Hindi can be expected to function as a medium of instruction at all levels in Hindi-speaking areas. Outside of academic life it will have other functions too. Apart from its special status in the administration, it is and will continue to be widely used language in day-to-day business, particularly at the urban centres. This is the arrangement which either exists at the moment or towards which things are naturally evolving. No sharp departure from this state is either necessary or desirable. It is only necessary to rationalise the present arrangement and make marginal adjustments, paying more attention to the development of the mother



tongue, fostering greater general acquaintance with Hindi while, at the same time, adopting measures to check any decline in the standards of English. For the rest the more important changes we need are in the methods and content of education rather than in the media through which education is imparted.

As an alternative arrangement we can make Hindi and the mother tongue twin media of instruction at the university. I do not regard this arrangement as impracticable. I simply consider it an inferior arrangement. English, coupled with the mother tongue, will exert a continuous uplifting pull on the regional languages, while the alternative combination may easily breed cultural stagnation. What was at fault with our old system of education is not that we accepted English, but that we very often neglected the mother tongue. To the extent that the mother tongue was not neglected it was obviously enriched through association with English. The immense progress in Bengali literature in course of the nineteenth century must be largely explained in these terms. I understand that this is also true of other Indian languages, though I am not competent to speak about them. The frictions involved in making Hindi a medium of instruction at the university, say, in the Tamil-speaking part of India will also be much greater than in installing the mother tongue beside English. Indeed, the very attempt may sharpen regional animosities. The price will not be worth paying - certainly not from the educational and perhaps not from any other point of view.

At this point it may be in order to talk of some institutional arrangements which will help to give effect to the ideas we have presented above. We have suggested that the regional language as well as English be adopted as media of instruction at the University. Does it mean that in some universities instruction should be given in the regional language, and in others in English? Or is it the idea that both languages should be used at the same university? Logically it should mean the latter, for our intention is to produce scholars who would be able to express the highest ranges of thought both in the mother tongue and in English. But India is a big country and we have scope for variety. So we may have some universities where the regional language will be the sole medium of instruction. Presumably these will be universities of lesser importance, since their scholars will find it difficult to communicate with fellow scholars in other parts of the country. But then why have such universities at all? Now, some people who started life in a modest way and did not go in for higher education might develop strong intellectual interests later in life, and it should be possible for them to receive higher education without their being obliged to learn English. Even they should perhaps be encouraged to acquire mastery of the common medium of academic learning in the country, but there should at least be the possibility of acquiring higher learning in the special field of one's interest without mastering English.

There may be other universities where English would be the sole medium of instruction. Now, why should we have universities of this kind? This is because as soon as we make English and the regional language the media of instruction at the university in any particular region, we make admission to the university difficult for students from other regions. We should have some universities where students can come and study from the four corners of the country. In such universities the only medium of instruction should be the common medium for the country as a whole.

Thus we may have some universities which will adopt either English or the mother tongue as the sole medium of higher instruction; but these will be exceptions. The typical university in India should adopt English as well as the mother tongue as the twin media of instruction. It may be useful to dwell briefly on some practical implications of this arrangement.

What does it mean to have a subject taught in two languages? Of course, the formula will have to be relaxed in some cases. Sanskrit need not be taught in English! Lectures on English literature may be in English alone. But what about the other subjects? If the arrangement we have recommended is adopted the teacher should have the option of delivering lectures either in English or in the regional language. And students should have a similar option in writing answers to questions. But how can we ensure that the option will not tend to be exercised by all in the same direction? And by what institutional arrangement can we keep alive in the minds of the teachers and the taught the deeper significance of this academic bilingualism?

To achieve an inner sense of community among universities all over India it is not enough to provide them with the bond of a common medium of instruction. It is useful to have such a common medium, but something more is necessary to achieve a lively sense of community. This is not the place to suggest all sorts of measures to this end. But there is something we can take up here because of its close bearing on the question under discussion. There is not enough exchange of university teachers among different parts of India. This is unfortunate. In this matter we should take example not by the British tradition, but by the American. Any observer of the American academic scene must be impressed by the high degree of mobility in that country. For a country of such large dimensions this is very useful. We need something similar in India. If it does not come about spontaneously, it should be specially aided and assisted. The Union Minister of Education has already spoken of an all-India Education Service. At the university level something more is desirable. A programme of rotation of teachers among the leading universities of India may be drawn up and, if necessary, aided by the University Grants Commission or some such competent body. Teachers from one university should visit another; they should give regular courses and not simply a few occasional lectures. To facilitate the process, leading universities should have special housing facilities for guest professors. Other incentives, such as temporary displacement allowance, may also be provided, if necessary. Something of the kind exists for guest professors from abroad. But we need regular exchange of professors within the country. In this way currents of thought in one part of the academic world can make their impact felt in other parts.

This programme of rotation of teachers ties up nicely with the idea of academic bilingualism. Guest professors will be expected to use the common medium of instruction for the whole country. Local teachers, on the other hand, will be free and even encouraged to lecture in the regional language. In addition, the university should arrange extra-mural classes on all sorts of subjects, consulting in this regard the interests of people in the neighbourhood. This is one of the best ways of extending knowledge beyond the precincts of the university and making the neighbourhood take interest in the work of the university. The extra-mural

lectures should be in the regional language wherever possible.

In bilingual universities some problems of adjustment are bound to arise from time to time, but these should not be insuperable. For instance, guest professors cannot be expected to know the regional language, which may create some small problems. But if the students are bilingual in the relevant sense of the term, there should be no great difficulty. Students may be required to answer papers taught by guest professors in English, while they are allowed and even encouraged to answer other papers in the regional language. Or some other working arrangement may be adopted. If the basic idea put forward finds acceptance, problems of implementation will not be so difficult that they cannot be solved with some skill and ingenuity. It is the basic idea that matters. The typical university in India should have roots in the region where it is situated, while it stretches out its arms to other parts of the country and looks beyond our shores in search of knowledge. The simultaneous acceptance of the regional language and English in an Indian University will be a sign and a consequence of its resolve to retain its regional roots as well as its wider links. If this is to be the order in our typical university, there must still be variations as explained above. For no single form may meet all our needs.

MEDIUM OF INSTRUCTION FOR HIGHER EDUCATION IN INDIA

(Note by Shri T.S. Bhatia of the Ministry of Education)

1. INTRODUCTION

The problem of the medium of instruction in universities and institutions of higher learning is one of the most important problems of Higher Education. No other problem has caused greater controversy among educationists or evoked more contradictory views from them. Besides, the question is so wrapped up in sentiments that it is sometimes difficult to consider it in a calm and detached manner.

For many years the current of national opinion has flowed with increasing force in the direction of the replacement of English by an Indian language. National pride legitimately felt hurt at the idea of an alien language occupying a dominating position in the field of national culture. Thus as the national struggle gathered momentum, the desire for the adoption of an Indian language as the means of inter-provincial intercourse, of administration and of higher education gained in strength and volume. Naturally on the attainment of independence the ardent among us expected an immediate fulfilment of their desire, and they feel somewhat surprised and hurt when it is pointed out that the question is a complicated one and does not admit of an easy and immediate solution.

The difficulty of the problem is inherent in the size of India and the character of her population; for, with the exception of China, there is no nation in the world of equal population or racial variety. Inevitably the diversity of language is greater in India than elsewhere. But this very diversity calls for unity. To reconcile the claims of diversity with those of unity is a perplexing problem.

## 2. HISTORICAL BACKGROUND

The first suggestion that English should be used as the medium of instruction appears to have been contained in the treatise of Charles Grant submitted to the Court of Directors of East India Company in 1797. Charles Grant thought that English would be the most "effectual medium" for the enlightenment of India. But this treatise was seen by few till it was issued in a Blue Book in 1832 and the Company took no action in regard to it; nor did they take any action for the encouragement of "Vernacular education". To start with, the movement for an "English education" was purely non-official; the main originators of it were Ram Mohan Roy and David Hare. The Hindu College, opened in 1817, the first college at which English was first systematically taught, was planned by these two men, although it was taken over later by Government.

The Public Instruction Committee, in a report issued in 1831, said of the Hindu College (or Vidyalaya) that as a result of its establishment

"A command of the English language and a familiarity with its literature and science have been acquired to an extent rarely equalled by any schools in Europe. A taste for English has been widely disseminated, and independent schools, conducted by young men reared in the Vidyalaya, are springing up in every direction."

As is well known, the controversy was settled by Macaulay's famous minute of 2nd February, 1835, written in his capacity not as a member of the Public Instruction Committee but as a member of Council, and the Resolution of Lord William Bentick's Government of 7th March following. In that Resolution, the Government stated that they were of the opinion that "the great object of the British Government ought to be the promotion of European literature and science amongst the natives of India and that all the funds appropriated

for the purposes of education would be best employed on English education alone"; that it was not the intention of Government to abolish any college or school of native learning of which the native population appeared inclined to avail themselves, but that the stipends paid to students of such institutions would be discontinued; that expenditure of the Public Instruction Committee on printing oriental works should be discontinued; and that money so saved should be "employed in imparting to the native population a knowledge of English literature and science, through the medium of the English language".

While the development of use of English language was the policy of the Administration at that time, it was not so at the expense of the Vernacular; on the contrary, the development, refinement and enrichment of the Vernacular was one of their principal aims. This aim was embodied in the Despatch of 1854. The Directors of the East India Company spoke of the high attainments in English literature and European science acquired by a certain number of Indians; and expressed their desire and object of extending far more widely the means of acquiring general European knowledge of such a character as might be practically useful to the people of India in their different spheres of life; they next discussed the question of the medium of instruction; they pointed out that, owing to the deficiency of translations in either the vernaculars or the learned languages of the East, English was the only key (in India) to the knowledge of European literature; but they added that in some parts of India, and more especially in the vicinity of the presidency towns where persons with a knowledge of English were preferred to others for many employments, a very moderate proficiency in the English language was often looked upon as the end of and object of education rather than as a necessary step to the improvement of general knowledge; and that a tendency had been created in these districts unduly to neglect the study of the vernacular languages.

With the creation of universities in 1857, the question entered on a new phase, unforeseen by the authors of the Despatch. It was on their recommendation that the universities were founded; it was their view - a view incontestable at the time - that the highest education of a modern character could only be given in India through the medium of English; and it was their view that Government should choose its Indian officers, mainly, at any rate, from among those highly educated young men who had expressly said that what they desired "is that where the other qualifications of the candidates for appointments under Government are equal, a person who has received a good education, irrespective of the place or manner in which it may have been acquired, should be preferred to one who has not". Government followed the policy of the Despatch in this matter; and the attractions of Government service made the university requirements a determinative factor in education.

The Commission of 1882 drew attention to an interesting experience in Bengal in regard to the age at which English should be begun as a medium for those who intended to pursue their studies in English, an experience dating from a time when the university regulations for the entrance examination excluded the vernacular entirely. The possibility of using English as a medium in the university course inevitably depended on the school training in that language, which was therefore a matter of vital importance to the University; and the Education Commission of 1882 gave considerable attention to it.

The Commission of 1902 felt that English teaching in schools greatly needed to be strengthened. The Sadler Commission of 1917 (popularly known as Calcutta Commission) advocated:

- \* (I) more attention to the rational teaching of the mother tongue as a method of mind-training;

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- (2) (a) reduction of the use of English as a medium of instruction upto the matriculation stage; and
  - (b) its retention as a medium above that stage;
  - (3) the adoption of improved methods of teaching English and the introduction of more highly-trained teachers of English both in the secondary schools and the intermediate colleges;
  - (4) more drastic tests for all of a practical knowledge of English; and
  - (5) an abandonment of the system of examining non-literary students in the difficulties of classical texts."

### 3. POST-INDEPENDENCE DEVELOPMENTS

The question of English versus Indian languages being the medium of instruction for higher education came to the forefront with the attainment of independence in 1947. In 1948, the Government of India appointed a University Education Commission to report "on Indian Universities education and suggest improvements and extensions that may be desirable to suit present and future requirements of the country". The Commission made the following recommendations with regard to the medium of education:

"that for the medium of instruction for higher education, English be replaced as early as practicable by an Indian language which cannot be Sanskrit on account of vital difficulties;

that (1) pupils at the Higher Secondary and University stages be made conversant with three languages - the regional language, the federal language and English (the last one in order to acquire the ability to read books in English;

that (2) higher education be imparted through the instrumentality of the regional language with the option to use the federal language as the medium of instruction either for some subjects or for all subjects;

that English be studied in high schools and in the Universities, in order that we may keep in touch with the living stream of ever-growing knowledge".

The question of the medium of instruction at the University stage has been considered by the Central Advisory Board of Education, the University Education Commission



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and the Inter-University Board of India. These bodies have recommended a cautious and a planned approach to the problem.

The Inter-University Board of India at its meeting held in January 1955, while considering the question of the language problem passed the following resolution:-

"RESOLVED that the attention of the Universities be drawn to the observations of the Inter-University Board made at their Special Meeting held at Nagpur in August 1950 as noted below:-

"The Board realises that the subject of medium of instruction is beset with many difficult problems and therefore requires very careful consideration. Whatever method be adopted, it must be a process of evolution leading to a gradual development of sufficient material to utilise the language concerned as a suitable medium of instruction at the University stage.

The Board feels that if fissiparous tendencies are not to develop and extreme provincialism spread, there is need for the Universities to have a common language. A common language is also necessary to enable students and teachers to migrate from one University to another, and generally for Inter-University contacts.

While an Indian language has to be submitted for English, at the same time, at present, the approach may have to be cautious so that educational standards and educational methods may not be seriously interfered with.

The Board realises that in certain areas the regional language of the State is considered suitable for being introduced as the medium at the University stage. But even in such cases, at this stage of development of higher education, there will be serious difficulties in producing suitable text books of highest standards and in finding teachers in sufficient numbers in the higher grades of learning. Educational institutions should not, therefore, be deprived of the freedom to continue to use English as the medium of instruction for the time being.

The Board recommends that All-India institutions of Teaching and Research should for some time to come continue to have English at least as one of the media.

The difficulties connected with the medium of instruction are much greater in multilingual areas, and in institutions which are designed to draw students from all parts of India. In such cases English may have to be retained until the National Language can be substituted.

With a view to facilitate the evolution of a common language the Universities should be liberally financed by the Union Government in particular and the State Governments in general to enable the students to learn the language of the Union at a higher level and if possible take their education in the language of the Union.

"The Board notes that certain institutions are carrying on the experiment of using an Indian language as the medium or of encouraging the study of a common Indian language.

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The Board is of opinion that Universities which are willing to impart education in the National Language should be allowed to do so and necessary financial aid should be given to them."

The Inter-University Board of India at its 34th annual meeting held on the 23rd and 24th February 1959 considered the report of the Conference (or Seminar) by the University Grants Commission on the "Problems of teaching English". There was general discussion about the teaching of English at the university level, but no resolution was passed.

The Central Advisory Board of Education, at its meeting held in November 1953, recommended that the question should be tackled on an all-India basis and transition from English to regional language or Hindi should be effected in a gradual and coordinated manner so that there should be no fall in the academic standard or undue hardship to students and teachers.

In March 1954 the University Grants Commission was requested to take up the question of the medium of instruction in the Universities and frame proposals for a systematic and concerted programme of action by Universities.

The Commission considered the question of medium of instruction in Indian Universities at its meeting held on 3.4.55 and passed the following resolution:-

"The question of medium of instruction was considered by the Commission, but since the whole matter is being discussed by the Language Commission, Government of India, the Commission did not take any decision on the matter, but desired that the attention of the Universities be drawn to the need for introducing Hindi as a compulsory subject of study at the first degree stage.

The Official Language Commission in its report expressed itself as follows:-

"In any case the trend has been unmistakable in recent years and we have no doubt whatever that a change-over of the general medium from the English language to the Indian languages "would come in our Universities progressively in the near future; and we entertain no misapprehensions as regards this trend, provided complete and satisfactory preparations are made and the change is suitably phased and graduated so as not to affect academic standards.

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The system that we would recommend, so far as the question of medium of instruction in Universities as between regional language and Hindi is concerned, would be as follows:

- (1) Universities should have the freedom to decide for themselves whether they would adopt the regional language or Hindi as the general medium in their respective Universities.
- (2) It may be left to the Universities themselves to decide in concert with each other, and after due deliberation in their established organs of consultation like the Inter-University Board, in what faculties, particularly in the professional subjects and Natural Sciences, and at what stages, the teaching should be through a common medium of Hindi alone in all Universities on the displacement of the English medium.
- (3) All Universities should in any event be required to arrange to examine students offering themselves for any university examinations with Hindi as the medium of instruction.
- (4) All affiliating Universities should also be under obligation to offer affiliation on equal terms to any colleges or institutions teaching through Hindi as medium of instruction for any of their courses in territorial jurisdiction of the University.

The case of institutions for scientific and technical education requires special notice.

So far as such institutions are financed by the Government of India wholly or in part, it would be competent for the Central Government to fix the linguistic medium through which instruction will be imparted in these institutions. Obviously this will have to be the Hindi language where students drawn from all over the country from the different linguistic groups may have to avail themselves of such training facilities: it could be the regional language where the students are exclusively or almost wholly from a single linguistic group. The issue, like all such questions, has to be resolved pragmatically, each case being decided on its own specific merits. It may also be that there are at some places State institutions the benefits of which are not wholly confined to students coming from those particular States. Specialised technical institutions like, say, veterinary colleges, schools and colleges of minerology, agricultural colleges, etc., cannot be duplicated all over the States merely because of a change of policy in the linguistic medium for imparting instruction in such institutions. Nor would it be to the interest of such States themselves to virtually exclude students from other States by adopting the medium of the local language, as the economy of such institutions is likely to be upset by any serious derogation of the numbers of pupils to be catered by them. We have no doubt that in all such cases the State concerned would agree to the common linguistic medium of the Hindi language being adopted as the medium of instruction to obviate all such difficulties."

The Committee of Parliament on Official Languages,  
in its report submitted in February 1959 to the President,

expressed the following view:-

"The gradual replacement of English in official work by Hindi and the regional languages does not mean severance of our ties with English. The special place which it must continue to have in the intellectual and scientific fields, and as a means of international contacts is not conditional upon the perpetuation of the existing arrangement. We live in an age of rapid scientific advancement and technological change. The development of science and technology may take place at an ever faster pace in future and these subjects will play an increasingly dominant part in our national life. The output of literature in these subjects is tremendous, and it may not be possible to translate all important works or articles that are published. Advanced students of science and technology have to be familiar with one or more foreign languages. English has not only a rich literature which is intimately connected with the whole body of Western thought and culture but is, at present, the most important vehicle of scientific and technical information. It is also the most wide-spread language in the world today. For us, amongst foreign languages, the choice of English is obvious, both because of its importance and utility and our present knowledge of it. Thus, although English cannot continue to be the medium of instruction in schools and colleges or the official language of the Union or the States in India for long, it will still continue to be of great help to us, and remain an important subject of study, specially for those engaged in advanced scientific work. The number of scientific and technical terms already runs into lakhs. Thousands of new words are being coined every year. Our scientists and technologists are familiar with English terms. The task of translating the existing and future scientific and technical terms into all Indian languages is immense, and the risk that such translations may be artificial or inexact, and unfamiliar to present-day scientists and technologists has to be guarded against. Different terminologies in different Indian languages may cause confusion and will make the inter-charge of scientific and technical knowledge within the country difficult. It is obviously desirable that there should be uniformity in the use of scientific and technical terminology in all Indian languages."

In 1955, the University Grants Commission had appointed a Committee under the chairmanship of Pandit H.N. Kunzru to examine the problems connected with the question of the medium of instruction and recommend ways and means to ensure adequate proficiency in English at the University stage. The Committee submitted its report towards the end of November 1957. The summary of the recommendations of the Committee is as follows:-

1. That the change from English to an Indian language as the medium of instruction at the University stage should not be hastened.

2. That the change to an Indian Language should be preceded by an adequate preparation both in the cultivation of the Indian language concerned as a medium of expression for learned purposes and by preparation of a sufficient body of learned literature in that language in all subjects of study.
3. That even when a change in the medium of instruction is made, English should continue to be studied by all University students.
4. That a proper foundation in English should be laid at the secondary school stage so that the students going up to the University can have an adequate knowledge of English.
5. That it would be necessary to have the methods of teaching English at the schools carefully examined so that teachers might be suitably trained and the benefit of the latest techniques in the study of foreign languages made available to our teachers and students.
6. That it would be necessary to have text-books prepared on scientific principles and that the Government of India or the Council of Secondary Education should take up this question for consideration.
7. That it is necessary to define the aims of English teaching at the school stage and to have some arrangements by which those who propose to go up for university education can have additional emphasis laid on proficiency in English.
8. That in relation to the Three-Year Degree Course which is proposed to be introduced in our Universities the teaching of English be given special attention in the pre-University class.
9. That the teaching of English literature should be related to the study of Indian literatures, so that apart from its value for linguistic purposes, it could be an effective means of stimulating critical thinking and writing in the Indian languages.
10. That it is desirable to have the question of courses of study in English and methods of teaching English at the university stage examined by an expert body and the recommendations of that body adopted by all the Universities.
11. That where English is not the medium of instruction at any University course it is necessary to adopt special methods to secure an adequate knowledge of English as a second language.
12. That far greater attention should be given to linguistics in our universities and in our teacher training colleges.
13. That it is possible to learn languages more effectively and much faster than was considered possible in the past with the assistance of special techniques and the use of gramophone and tape records and other mechanical devices.

14. That it is in our educational interest that English should be retained as a properly studied second language in our universities even when an Indian language is used as the ordinary medium of teaching.

Following the Report of the Kunzru Committee, a Conference or Seminar was held under the auspices of the U.G.C., on the problems of teaching English and this Seminar made a number of recommendations for

- (a) the Pre-University stage;
- (b) B.A., B.Sc., and B.Com. degrees;
- (c) Optional courses in English for the Bachelors or Masters Degree.
- (d) Linguistics as an Optional subject for the B.A. degree.

Copies of the Kunzru Committee Report and the Report on the Conference on Problems of Teaching English have been communicated to all the Universities and State Governments for their information and guidance and, wherever they consider necessary, action also.

During the course of the debate in the Lok Sabha on the Second Report of the U.G.C. for 1957-58, the Minister of Education expressed the following views:-

"It will be observed from the Commission's Report that the Commission has accepted the recommendations of the Kunzru Committee Report.

"In this pattern, there is some misunderstanding which I would like to clear. As far as the University Grants Commission and the Government are concerned, we have accepted the recommendation of the University Education Commission which says that pupils at Higher secondary and University stages should be made conversant with three languages, the regional language, the federal language and English language and that higher education be imparted through the instrumentality of the regional language as the medium of instruction either for some subjects or for all subjects. The Kunzru Committee has not deflected from this objective. The main ultimate objective remains the same, and that is we would like the regional language to be the medium of instruction in course of time. The Kunzru Committee has only stressed the fact that we are not ready to switch over to the regional languages. We shall have to prepare text-books and we shall have to write original books in science and technology, and unless this is done, if we switch over to regional languages, we shall only lower our standards. They have only cautioned us and they have suggested that we should make a sort of gradual change. The change should not be too rapid. As far as the ultimate goal is concerned, it remains the same."

"The main question which has been raised and I think rightly raised, is with regard to the medium of

instruction at the University stage. Extreme views have been expressed on this subject and I think, the views that have been expressed in this House also reflect the general trend of opinion in the country. There is a section of society in our country which thinks that English should continue for ever and Hindi and regional languages should never take its place. There are some people who think that, for all time to come, English should continue to occupy the same position which it had done in the past. There is another section in our society which thinks that whatever may be the consequence we must switch over to the regional languages immediately. I think these are both extreme positions. As far as the Government of India and the University Grants Commission are concerned, they both reject these extreme positions. I do not think any country can continue to have a foreign language as the medium of instruction for all time to come. The University Education Commission which went into this question thoroughly gave its decision and made its recommendations which the Government had accepted, that, ultimately, the regional languages or the federal language must be the medium of instruction at the University stage.

How is this to be done? This has to be done by continuous arduous work in the Universities by great writers. They will have to write original books on Sciences. It is not a question of mere translation of books."

The Chairman, U.G.C., at a Press Conference on the 26th May 1959 expressed the following views on this subject.

"Eventually regional languages must become the medium of university education. But there must be a common language throughout the country or else university standards will decline. For the foreseeable future this common language ought to be English, and Hindi can gradually take this place."

In its 3rd Annual Report for 1959-59, the University Grants Commission reiterated their view that the change-over from English to an Indian language should be carefully prepared and should be made only gradually, that is, with regard primarily to the effectiveness of teaching and learning. The Commission also thought that even when the change is made, every effort should be made to maintain a high standard of English as a common second language for all our Universities. The Commission also planned that with a few exceptions, the majority of University people agreed with their view that the change from English to an Indian language should be brought about gradually and after careful preparation; and that the

Commission was considering the question of setting up a Working Group to examine the question of making adequate preparation for a change-over with a view to exploring the possibility of assisting Universities to bring about an orderly change. The Commission emphasised that the medium of instruction is an academic and not a political question and that any change that may be considered necessary should be introduced only after full accord on the matter with the Universities.

At its meeting held on 17th June 1959, the University Grants Commission considered the question of medium of instruction in the Universities and passed the following resolution:-

"The Commission noted the various suggestions that had been made and steps taken so far with reference to the problem of medium of instruction in the Universities, and agreed that a Working Group be appointed by the Commission to study this question further and to draw a plan of action for the change of the medium of instruction from English to an Indian language consistently with the maintenance of high standards in English and that later on a fuller seminar on the subject be organised."

In pursuance of the above resolution, the Commission appointed a Working Group to study the question of adopting Indian languages as medium of instruction in the Universities.

At its first meeting held on 15-2-60, the Working Group discussed certain questions generally and stressed that its main function was to suggest ways and means for making adequate preparation in case a University decides to introduce a regional language/Hindi as medium of instruction. The report of the Working Group is awaited.

It is understood that the Working Group appointed by the University Grants Commission to consider all aspects of the question pertaining to the change of the medium of instruction from English to an Indian language has strongly recommended that even after a University had adopted an Indian language



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as the medium of instruction, it should continue to allow English as the medium for a fair number of subjects, if not for all. The Group is further understood to have expressed the view that in Central Universities and institutions run by the Central Government, English should continue to be an alternative medium even when an Indian language is adopted as the medium; that the State Universities should also set an example in institutions run by them by providing instruction in a fair number of subjects through English. The Group has also recommended that each University or group of Universities together interested in the same language should assume primary responsibility for securing the production of books needed in adequate numbers; that the Government of India, the University Grants Commission, the State Governments and voluntary organisations interested in this kind of work can help; that among other kinds of assistance financial assistance is quite important but that the primary responsibility for the effort should be that of the University or Universities concerned.

On 16th March 1960, the Minister of Education laid a statement on the Table of the Lok Sabha, in the course of which he stated that the Universities in India are autonomous bodies and are fully competent to prescribe their own medium of instruction. It was also mentioned in that statement that any directions issued by the Government of India in this regard would be tantamount to interference with the autonomy of the Universities and would be inconsistent with the statutory rights vested in them. The statement also went on to say that a number of Universities had introduced plans to introduce Hindi or a regional language as the medium of instruction for certain courses of study.

During the course of the debate on the Third Annual Report of the U.G.C. in the Lok Sabha on 12th August 1960 the Minister of Education made it clear that it is the policy

of the Government of India to encourage the regional languages and that we would like to see the day when regional languages would become the media of instruction and the highest education would be imparted through the regional languages. The Minister also made it clear that it was not correct to say that the U.G.C. or the Government of India are opposed in any way to the introduction of regional languages as medium of instruction. He also added that certain Universities in the country had already decided to switch over to the regional languages and assured the House that the Commission and the Government of India would help in speeding up this progress. Similar views had been expressed by the Minister while replying to the debate on the Third Annual Report of the U.G.C. in the Rajya Sabha earlier in April 1960.

On the 25th August, 1960, the Minister of Education addressed a circular letter to the Vice-Chancellor of all Universities and all State Governments intimating that as a preparatory step towards the introduction of Hindi and regional languages as the medium of instruction for higher education, this Ministry had prepared a project of translation and preparation of standard books in Humanities, Sciences and Technology for immediate implementation. It is proposed to get this work done through Universities and academic agencies of the State Governments. This Ministry will meet the entire expenditure in this behalf. A Standing Advisory Committee consisting of the representatives of different Universities participating in this project, the University Grants Commission, the Ministry of Scientific Research and Cultural Affairs and the Ministry of Education, has been set up to pilot the work of translation and preparation of the proposed books. About 200 titles of different books on various academic subjects have been selected and distributed region-wise.

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This Ministry is taking steps to assume all the copyrights pertaining to the 200 titles already selected. A list of a hundred more books is also being finalised in consultation with the Standing Advisory Committee.

The proposed project not only provides for translation of standard books but also envisages original writing of books needed for university education. Arrangements are afoot to ensure the maximum standard of academic excellence with the cooperation of the University Grants Commission.

The most important feature of the project is that the sale proceeds of all such publications will be ploughed back to the agencies engaged in this work so that they are able to plan further translation and original writing of books. The grants under this scheme will be subject to the condition that the proposed translations or original books must invariably use the technical terminology evolved by the Government of India (Ministry of Education). For facility of work on regional basis, the possibility of bringing together the participating universities, academic bodies and State Governments in regional coordination committees is also being considered.

On the 17th September, 1960, Education Secretary informed the Chairman, University Grants Commission, that Education Minister desired that since various Universities were considering measures for the eventual introduction of the regional languages as medium of instruction which was in accordance with the policy of the Government of India, it was necessary to ensure that the transition to the regional language should necessarily be accompanied by all possible steps so that the standards do not go down and confusion is avoided during the period of switchover. The Commission has accordingly been requested to examine this problem and to take all possible measures for assisting the

Universities in the task of introducing regional language as the medium of instruction at the University stage.

In the Third Five Year Plan this Ministry has included a scheme for setting up a Central Organisation to encourage multi-lingual translation of University books. A provision of Rs. 10 lakhs has been allocated for this scheme in the III Plan. The scheme will be administered directly by the Ministry of Education and will be in the nature of a pilot project. The details of this scheme are being worked out. This scheme will be in addition to the assistance which will be provided to the Universities and the State Governments in the implementation of the policy of gradual replacement of English by a regional language as the medium of instruction for higher education.

It will thus be observed that a number of measures have been taken by the Central Government to assist the Universities, if they so desire, to change the medium of instruction from English to a regional language. The speed with which this change can be accomplished depends upon several factors - the most important being the earnestness of the Universities themselves about this task and the labour which they and other academic agencies in the country are able to put into this work. So far as the Government of India are concerned, a clear cut policy has been laid down and it behoves all of us to endeavour and ensure that this policy is translated into action in the not too distant future.

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SUGGESTIONS RELATING TO NATIONAL INTEGRATION

Discussions of the Chief Ministers in August, 1961 have prepared the ground for a more comprehensive approach to national integration. In the nature of things, national integration is an ultimate result of efforts and activities undertaken consciously along many different directions, all demanding time, resources and continuous pursuit of essential aims.

2. Tests of national integration

National integration has a varied content - economic, social, cultural and political. Its different facets are both distinct and interconnected. Progress in national integration in the conditions of India may be judged by such tests or criteria as the following :

- (1) confidence in the future, specially in political stability, economic and social progress, continuous rise in levels of living of the masses, elimination of unemployment and reduction of disparities in development between different parts of the country. Together, these promote a keen sense of equal opportunity in political, economic and social terms;
- (2) conviction that the interest of each group or section within the national community is bound up with the advancement of the nation as a whole. The fact that we have a federal structure and States have large powers and responsibilities should enlarge rather than restrict the opportunities and rights which must be an attribute of the citizenship of India;
- (3) assurance that good and impartial administration, equal treatment for every citizen in fact and not merely in law, non-partisanship and integrity on the part of the entire body of public services is a value guaranteed at the National level irrespective of political or other vicissitude in the States. In relation to the common citizen, in particular, the Central Government has a duty and responsibility which is emphasised by many developments since Independence;
- (4) mutual understanding and respect for culture, traditions and sentiments between different sections of the nation;
- (5) a sense of citizen values and obligations and their identification with the entity 'India' which goes beyond loyalty and association with different regions or with different social and cultural groups.

3. Major lines of development

Many valuable suggestions for promoting national integration have already been made. In elaboration of some of these, the suggestions set out in this paper may be grouped under the following heads:

I Development of Indian languages;

II Ensuring greater knowledge, understanding and appreciation of different parts of India throughout the country;

- III Using various modern media of communication purposefully with a view to national integration;
- IV Strengthening all-India movements and organisations as important elements in national unity and integration;
- V Strengthening the zonal level in planning and development;
- VI Enhancing the constructive and positive role of the Central Government and strengthening the national level generally; and
- VII Conventions and codes of conduct.

#### I. Development of Indian languages.

The broad policies have already been laid down. There is need for a large-scale programme for developing facilities for the study of Indian languages in our universities in different parts of the country. Each of our universities should be helped to develop Departments in at least three or four Indian languages. A few major universities and Central Universities should have Departments for all Indian languages. Scholarships and fellowships should be available in a big way to enable students to acquire knowledge of other languages and to find careers through these languages. There should be an extensive programme of inter-language translations, of research in social, cultural and economic conditions and of studies undertaken with a view to describing and interpreting different parts of the country to one another.

If an appreciable proportion of the literature of each language in India is to be made available in other languages, scholars are needed, not in hundreds, but in thousands, and there is work enough for them over the next 15 or 20 years.

Individual universities could be linked up in agreed programmes for translation, survey and interpretation on the lines mentioned above. Teams from various universities working together could between them cover all language areas. For instance, a group of five or six universities could be charged with the responsibility of undertaking jointly a long-term programme falling within, say two or three languages. They could formulate their programmes, assign the portions which each of them would undertake, and determine the phrasing and the priority for the main jobs to be carried out.

Since the number of scholars available in the beginning, who are able to communicate from one Indian language into another (without having to go through the medium of English) will not be large, a considerable programme of training will have to be organised. Any programme that is undertaken will take some time to produce an impression.

As part of the Third Five Year Plan, whatever funds universities are able to absorb for this programme should be made available by the Central Government. The efforts of the Centre could be further supplemented and supported by the State Governments and by donations.

It would also be essential to expand printing and publishing facilities in various Indian languages.

#### II. Ensuring greater knowledge, understanding and appreciation of different parts of India throughout the country

This envisages a large-scale programmes for fraternal

relations and for exchange arrangements. The programme could include -

- (a) exchange of teachers and lecturers with provision of materials and facilities for their use;
- (b) fraternal relations between specified educational institutions located in different parts of the country (schools, colleges, women's institutions, youth organisations, professional institutions, etc).
- (c) holiday camps and summer schools in different parts of the country arranged on an inter-language as well as all-India basis and designed to break down barriers;
- (d) linking up individual Panchayat Samitis in different parts of the country for receiving guests from and sending visitors to one another periodically.
- (e) similar linking up of District Cooperative Organisations and Associations in different parts of the country. (In USSR, collective farms in different parts of the country are frequently linked up in this manner).

III. Using various modern media of communication purposefully with a view to national integration

The principal media are the Press, Films and Broadcasting.

(a) Press - The proposal to set up a Press Council should be implemented. With appropriate committees for the language press, the Press Council will be a responsible body bringing together the best leadership in the press. This may go a long way to set the right standards and tone both in the English press and in the Indian language press.

Indian newspapers and periodicals should be given news print and helped to obtain material for bringing out supplements and publishing feature articles about different parts of the country. Thus, different parts of the country and their people can become better known to one another. Such publications could become a regular and popular feature of newspapers and periodicals. Since the Central and State Governments will need the material for wider publicity and distribution to libraries etc., bulk orders could be placed by them in advance.

(b) Films - There is perhaps no more effective medium than films for reaching large numbers of people. The cooperation of the film industry should be secured so that films could be prepared on an extensive scale for making known different parts of the country to one another. Extensive facilities for dubbing in different languages should be developed. In several parts of the country it will be difficult to reach areas other than the larger towns through Hindi alone. Financial and other assistance should be given to the film industry for undertaking such programmes and for raising levels of technical production.

(c) Broadcasting - Only a small proportion (effectively perhaps not much more than 10 per cent) of the villages of India have community listening sets. It is possible to provide community listening sets in all villages in India in the course of the next four or five years and to organise the necessary maintenance services.

Every school in the country should also have its listening set as early as possible, beginning first with the middle and high schools and followed by primary schools. Special programmes of school broadcasts should be organised to serve these institutions. These programmes should provide for sufficient variety and should not become dull or heavy. They could be a most valuable medium for general education as well as for special courses.

Funds for implementing the proposals set out under (a), (b) and (c) should be provided under the Third Five Year Plan.

#### IV. Strengthening all-India movements and organisations as important elements in national unity and integration

The Constitution and the Plan, with the administrative and institutional arrangements which accompany them, are not sufficient to sustain national unity. Apart from all-India political parties, there are two sets of all-India movements and organisations which should be specially strengthened.

The first consists of certain national movements, especially labour movement, cooperative movement, social service organisations, women's organisations, youth organisations and movements and organisations of creative workers like writers and artists. Apart from all-India labour parties, the others mentioned above are essentially non-political. The Government should establish a Fund on a non-political and autonomous basis to assist all-India organisations to develop their services and activities at national, regional and State levels. Suitable functions could be worked out by the organisations concerned for being undertaken at each level, e.g. training, publications, seminars, etc.

The second set of organisations are Professional Associations charged with the duty of setting standards and building up esprit de corps among their members. Such Associations already exist to some extent, but as a rule do not function in a sufficiently sustained way and are poorly organised and equipped. Professional Associations could become much more effective. Where necessary, they could be given assistance for organising themselves. In some cases their work could be supported by Parliamentary legislation.

#### V. Strengthening the Zonal level in planning and development

The essential framework for strengthening the Zonal level already exists through the Zonal Councils. These Zonal Councils should be given a more positive role, specially for such purposes as inter-State development, development of the less developed areas, watching progress in the fulfilment of basic social objectives and ensuring that the minimum needs are met. The Planning Commission should be actively associated with zonal bodies. Each Zonal Council may constitute a Zonal Development Committee which may be serviced by the Planning Commission. Reports of the Zonal Development Committees should be considered by the Zonal Councils and should be circulated to the National Development Council.

#### VI. Enhancing the constructive and positive role of the Central Government and strengthening the national level generally

The main suggestions under this head are:

- (1) National integration requires sustained action for promotion of Indian languages and for ensuring greater knowledge, understanding and appreciation between different parts of the country. To carry out the proposals given under items I and II above, it is suggested that the Central Government should establish a Department of Indian Languages and Culture. This Department could take



over the relevant functions now distributed between the Ministry of Educational and the Ministry of Scientific Research and Cultural Affairs and broaden their scope. At an appropriate stage, the question of upgrading the status of the Ministry of Education would also deserve consideration.

- (2) Good administrative and public relations can deal with many disruptive and divisive tendencies long before they have become a force to reckon with. At the national level, therefore, there must be a deep and continuing concern with good administration, with the morale and conditions of the public services, and with the observance of proper administrative and political conventions at all major points within the country's structure. The Committee on Administration, which has recently been set up at the Centre, hopes to keep in touch with similar Committees on Administration which the States have been requested to constitute. These Committees at the official level require guidance and support at the level of Chief Ministers. This may be provided by the National Development Council, if necessary, through a specially constituted committee which can consider specific issues.
- (3) At the national level there is need to assume a distinct responsibility, in cooperation with the States, for ensuring that over the next 15 years or so, all less developed sections of the population, as identified, come up to the general level and for securing effective equality of opportunity for all citizens of India. This function belongs in a general way to the National Development Council and could now be given clearer form.
- (4) The possibility of establishing certain All-India Services is already being examined. In fields in which it is decided not to constitute All-India Services, the Central Government should establish Central Services which will cater to the needs of Union Territories, provide personnel in different fields to such States as may be in need. A substantial proportion of the posts in these Services should be filled through arrangements for deputation from State cadres. Such Central Services will provide a wider field and outlook for personnel serving in the State cadres and will also help raise standards of performance and administration in different fields throughout the country.
- (5) The Central Government should take steps to strengthen its own intelligence system throughout the country. The Central and State intelligence services will doubtless work in close cooperation, but in a large country it is necessary for the Central Government to have sufficient intelligence personnel which can serve as an additional source of information and sifting of other intelligence.

#### VII. Conventions and Codes of Conduct:

Conventions and codes of conduct may prove of great value for ensuring that the right policies are enunciated and are observed through mutual consent and understanding. For instance, in the following directions conventions can play a useful part:-

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- (1) In various national movements and all-India professional organisations, conventions can help set and enforce suitable standards and ensure greater uniformity in conditions.
- (2) Conventions on the part of the Press, Film Industry, etc.
- (3) Convention that every State Government will endeavour to provide opportunities for employment within its Services to persons from outside the State. It is not enough that in recruitment to State Services, language as such should not be a bar. A more positive approach is required. This will also serve as a strong stimulus to the learning of different Indian languages in various parts of the country.
- (4) A convention could be established that no political party whose membership is limited to persons belonging to one faith should be eligible for contesting elections. Such organisations have their proper field in social and cultural activity.

September 24, 1961.

Tarlok Singh

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FOURTH MEETING  
SECOND SUPPLEMENTARY AGENDA  
Item 17.

Some Suggested Problems for consideration  
by the Indian Education Commission

November 15, 1964

To:

Mr. J.P. Naik, Secretary  
Indian Education Commission

From:

Dr. J. Paul Leonard, Chief of Party  
Columbia University, Teachers College Team in India

At a meeting with you and two members of the Commission on October 6, 1964, you requested me to confer with the members of our Team and to draft for you a statement of problems of Indian Education which we felt merited study by the Commission. We have had two staff meetings and are pleased to convey to you herewith such a statement.

You further requested that I prepare for you an analysis of the major problems with recommendations for consideration, indicating that this report should reach you shortly after January 1, 1965. This second report is under preparation and will be presented to you as soon as completed.

The questions suggested in this present report are listed under four headings as follows:

- I. General Problems Basic to Several Levels of Education
- II. Problems of Primary and Middle School Education.
- III. Problems of Secondary Education.
- IV. Problems of College and University Education.

Obviously not all educational problems confronting India are covered; the list, therefore, represents a selection of problems stated as questions which we deem to be significant.

The members of the Team are pleased to be invited to assist the Commission, and we trust that this list will be found to be helpful. Our later analysis will project our thinking into an analysis of the most important problems on this list.

Sincerely,

J. Paul Leonard  
Chief of Party

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Suggested Questions for Consideration

1. Problem Area - General Problems Basic to Several Levels of Education Specific Questions -
  1. What should be the goals for the five basic levels of Education in India - Primary, Middle School, Secondary, College, and University?
  - a. What should be the unique purposes and functions of each educational level and how should these be stated? Content, method, and admission of students are governed by educational functions and objectives.
  - b. What individual skills, attitudes, behaviors, and values should be sought on the different levels?
  - c. What objectives and content should be common for all students (primary through college) for national integration and what should be differentiated to provide for exceptional children and youth and for a variety of services to society?
  - d. It is most important that Indian Education on all levels be closely related to the economic, political, and social development of India. What does this mean for the curriculum on each school level?
2. What standards are desirable and reasonably attainable for all levels of education? How should they be established, implemented, enforced and regularly evaluated? To what extent should they take the form of an evaluation of student performance as measured by examinations, and of institutional evaluation based upon inspection under definite criteria? What provisions and allowances should be made for differences and innovations?
3. One might easily conclude from an examination of the present data available that one of the main purposes of Indian education today is to eliminate pupils from

school as they become older. To what extent are failures and drop-outs a real concern for Indian education? How can they be justified? What are the real causes for such excessive elimination? What procedures, processes, materials and methods should be changed? The human waste and financial expenditures for failures are frightening.

4. At present examinations are determinants of learning in India. To what extent is this supportable? They are also the chief devices used to eliminate pupils from continued education. To what extent are they really valid? How can they be reformed so as to serve the proper purposes with greater validity, such purposes as guidance, discovery of talent and originality, selection for college and for occupational success, determination of achievement, all of this without determining the curriculum or unduly restricting the teacher and pupil?
5. The language problem needs solution on all levels, both to improve pupil learning and to contribute best to the development of India. In many instances it has become more political, irrational, and emotional than educational. What should be the medium of instruction on all levels, to what extent common and to what extent differentiated, and what languages should be required and what offered as electives?
6. How important is it that there be a common pattern of school organization on the primary and secondary levels? At the present time we have primary schools, junior basic schools, middle schools senior basic, matric high school, matric with 11 years equal to 10 years elsewhere, higher secondary, P.U.C., intermediate, multipurpose.

Would it be wise to standardize school levels and even eliminate the use of such varying names? Is it feasible to discontinue the use of the term "basic" for school types and levels? Would it be wise to standardize secondary education, making an eleven year school level common for all schools and basing all examinations upon attainment of this level of education?

7. The quality of textbooks and teaching materials is below what pupils have a right to expect. How can the quality of these materials be improved? Be safe guarded? By whom? Would the production of model books on a central level assist in influencing improvement? What standards should prevail before a book can be used in the schools?
8. Personnel policies need examination and study. Why is it necessary to apply government civil service practices and requirements to teaching and administration? Do present practices, more suitable for government service than for the art of teaching, encourage the acceptance of the idea that one should not go beyond his fellows, fail to give special treatment and recognition to special talent, encourage promotions unduly upon the basis of seniority, ignoring both merit and special training? Is education over-administered on all levels? To what extent do frequent transfers, sometimes politically determined, affect continuity and professional improvement? What policies should govern voluntary and involuntary transfers?
9. The relations and responsibilities between the Central Government and the States are not clearly defined and accepted. What should be the respective functions of the Center and the States for the various levels of

education and for the various aspects of education, such as textbooks, syllabi, finance, common patterns of organization, etc. ? The Central Government must of necessity be interested in the character and extent of education for the children of India, because a proper educational system is essential for the stability of government and the economic development of India, yet the Indian Constitution makes education a state function. There are many questions here which need resolving.

How can the Central Government guard its interest properly? How can it give effective leadership? How can it use funds for support to insure standards and quality performances? Should education be made a concurrent subject? What other methods might be used to establish a more cooperative relationship between the central and state governments on educational matters?

10. What should India do educationally for their exceptional children, both the gifted and the handicapped? What kind of education and on what levels should education be offered to the handicapped? How can those with special talents and abilities be identified and what educational provisions need to be made for them? No country can afford to neglect its talented youth.
11. What can be done to remove the present extent of authoritarian controls in education, giving greater freedom for teacher initiative, for democratic work and discussion procedures, for greater ease for change and improvement in education on all levels?
12. The selection and training of teachers is of prime importance on all levels but especially acute on the primary and secondary levels. How can capable young people be secured and kept for teaching? The present

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teacher training institutions and colleges are markedly deficient. What should be done to improve them and to use them more effectively for both pre-service and in-service teacher education? The number of untrained teachers is alarming and their number and diversification poses a tremendous problem. What new techniques and procedures and technological advances can be brought to bear upon this problem? What realistic standards and what certification procedures should be set and enforced for teachers?

13. How can new ideas in content, organization and methods of teaching be introduced into the schools? How make teachers knowledgeable of these and what changes need to be made in syllabi, texts, examinations, inspection and administration to introduce new practices into the schools?
14. The financial structure of education - local, state and Central, government and non-government schools needs to be studied. How can India finance a quality program of education and yet take care of enrolment increases? What proportion of available resources should be allotted to primary, secondary, and higher education? How are resources related to numbers to be educated and to the character of education? What should receive priority? How encourage local effort? How use central financing to guard standards? What is the proper expenditure for education in India for the next 10-15 years? How sell the government and the general public on the idea of increasing support for education? How equalize educational opportunity within and among the states? How should the Center, the States, the local people and the parents share educational costs?



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15. What staff will be required in the State governments to implement the plans proposed; is it available and trained; can it be had and properly supervised? Will the plans be realistic enough to work and what assurances will be given if approved that they will be implemented? How will responsibility and authority be assigned and officials held accountable?
- What will be the mechanism and organization for constant evaluation of the implementation of the Commission recommendations? What research and reviews will be made to provide for periodic changes for regular progress?

II. Basic Problem Area - Primary and Middle School Education

Specific Questions -

1. What kind of education does India want and need for its millions of children in the primary and Middle Schools? What should be the objectives to be sought during these years; how long should pupils of this age range be kept in school; and what should be the evaluation of success?
  - a. To what extent should India within the next ten to fifteen years seriously endeavor to place every child of primary age in school and keep him there? Will financial and educational resources be available during this period to provide quality education in the primary grades and at the same time be sufficient to meet the extended needs for the education of youth through the secondary schools and higher education? If not, what and how curtail the continued increase in enrolment in primary schools?
  - b. The elimination of pupils during the first five grades is educationally unjustified. What does the Indian government desire as policy regarding the retention of pupils through the primary grades; what causes the excessive drop-outs and how can the number be reduced to meet the policy desired?
  - c. What should be the curriculum content and methods to be used in the primary and middle schools and what kinds and quality of texts and equipment is India willing and able to provide? Research and good writing are essential for good texts and good teaching; Indian staff with proper qualifications are scarce; how can the quality ones be used to spread the results of their work?
  - d. Basic education is misunderstood both by teachers and parents and highly controversial. Can better

progress be made by planning a complete educational program sequentially built from standards one through eight, utilizing all desirable means of education, including crafts, but discontinuing the use of the term basic education? The use of titles like this causes condemnation to center on the good as well as the unachievable aspects of education when a program is under attack or causes confusion.

- e. What kinds of teacher qualifications are desirable and attainable for the primary and middle schools; how can they be secured and trained; what should they be taught; what facilities and quality of staff should be provided for training? What are the criteria for a good Indian teacher training institution?
- f. India has a very large number of untrained primary teachers at work, and each year more are added. Can they be trained within a reasonable time; what priority would a program for this purpose have; what are the aspects of a workable program for training those now teaching without training? Can a system be evolved uniformly throughout India to set up certain standards for employing teachers, and make this system work? The State is obligated, is it not, to protect children against unsatisfactory teaching? What about more women teachers? (This question is also mentioned under the general heading, Section I). How can teachers be given new insights? Could the extra work they do to add to their income be made to contribute to their teaching? Could additional training be rewarded with higher salaries?

\*through a system of credentials, regular ones for trained teachers and provisional ones for untrained teachers,

- g. Would it be wise to have a no failure policy for the first two or three grades and use only internal exams entirely in the primary and middle grades?
- 2. How should India finance primary and middle school education so that proper facilities can be provided for all children to meet the adopted policy for primary education? What and how much should be free to all and and what should be free to a selected group, (capable but poor)?
- 3. To what extent should this level of education be under government schools and to what extent under private schools? How should the government treat private schools financing, inspection, supervision, setting of standards, government regulations, etc.?
- 4. What policies should prevail regarding the language problem in the primary and middle schools? Should schools teach in the mother tongue or only in regional languages and Hindi? If Hindi and English are taught should they be required or elected? When should they begin? What should be the medium of instruction?
- 5. Is it desirable to make "Community Schools" out of the primary and middle schools in the sense that the programs and curricula of the schools should in so far as possible be built around activities and life problems in the community and the state? If this is true, how bring it about? If not true, then what program is acceptable; there seems to be little justification for so much variation in primary education policies among schools and states. What is a proper sequential syllabus for requirements and optionals from standards one through eight?

6. If the first 8 grades are to be considered the normal finishing period for general education in India (Following the Constitutional provision of ages 6-14) should not the program of the primary and middle school be built as a natural sequential unit with this major purpose in mind and without relation to the idea of preparation for continued secondary or college education? This would involve a major curriculum reform, the receiving of a certificate of completion from the eighth standard to be followed by an external examination only for those who desire to compete for seats in the secondary school above grade eight. The examination should be one which does not dictate the curriculum of the first eight grades nor one for which cramming would be of much use, but would be directed at the idea of discovering those pupils who had the necessary abilities to pursue further education successfully.
7. What minimum equipment and facilities are necessary for primary and middle school education - textbooks, buildings, laboratory or special equipment for agriculture and industrial arts, crafts, uniforms, noon day meals, etc. ? What of these should be supplied by the state, by the local community, by the parent? What are the criteria and standards to be applied?
8. What studies should be common for all students, and what differentiations should be made for pupil interests, boys and girls, and special talents?
9. What use can be made of modern technological advancements to improve teaching in the primary and middle schools, particularly such things as films, the radio, programmed learning?
10. What part could the primary schools and primary

teachers have in a program to reduce adult illiteracy?

Note- Other questions listed under Section I on general problems also apply to primary and middle school education.

III. Basic Problem Area - Secondary Education

Specific Questions -

1. Secondary education is a key period in education for Indian development. From this period come the elementary teachers, the youth who go into government, commerce, and industry where a college degree is not required, and the youth who continue to a degree or postgraduate degree for leadership positions. Several questions naturally arise, if this position is a sound one, such as the following:

- a. To what extent should secondary education be general and to what extent vocational. What specific manpower needs should be met by the secondary school level? To what extent and where should secondary schools be comprehensive in character or strictly vocational or strictly academic? To what extent should secondary schools be co-educational? For what occupations should the secondary school offer terminal vocational education to the degree necessary for the student to secure immediate employment?
- b. Today the purpose of secondary education in all but the trade schools is to prepare for college? There needs to be a clear functional statement of the purposes of secondary education to cover all types of education during this period and to be used as guide lines for determining the curriculum and the character of students to be educated. What should this statement say?

- c. Approximately what percentage of youth of this age group should India expect to educate during the next 10 years? What plan is being made to continue to make predictions on age groups, needed manpower, and educational changes to meet these needs?
- d. What should be the nature of the examinations required to select those students for this period of education?
- e. Would a series of regional Village Secondary Schools be feasible, schools 3 years in length or may be embracing standards 6-11, where buses for some and hostels for others could be provided, which would be designed to strengthen general education, provide skills for village and small town industries, and especially for agriculture? (This idea will be developed in detail in the report to follow this one). Would it be feasible to add to these schools a professional program of one year to train elementary teachers for village schools.

If these schools were 3-6 years in length and the program was directed toward community development with shops and school farms, this entire experience would provide excellent training for the elementary teacher, far better than he now secures in any program for training elementary teachers.

- f. Should not diplomas be given at the end of the secondary period for all those completing the work of the secondary school, leaving the taking of an examination for college entrance to those who have special qualifications for such study? Might this not eliminate the great failure rate at the end of the tenth and eleventh years, give credit

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- for success in the secondary school, and take the pressure off the secondary school curriculum now imposed by the present leaving examinations?
- g. Is there any good reason why a secondary school period of eleven years should not be adopted by all states and schools in India? There are many values in a standardized period of study and the universal adoption of eleven years as standard for secondary education would be quite satisfactory for India for the next 10 years, leaving a 12 year school to follow later when more financial resources become available.
- h. Once a definite policy is set for the objectives of secondary education, which is at present lacking in terms of the development of India, the secondary curriculum should be reformed to meet this policy. What should be the major outline of requirements and electives for this period to meet the objectives of secondary education?
- i. What should be done by way of careful planning and execution so that the external examinations will be prepared by teachers and by experts trained in the making of examinations, and be so constituted that they will neither dictate the curriculum and teaching, as they do now, nor allow the pupil to cram for them or get a large amount of coaching, be graded objectively enough to set comparable standards for passing, and be far more predictive of college success than the existing examinations?
- j. What emphasis should be placed upon education for girls during the secondary period and what differences, if any, should there be in the curriculum for boys and girls? How will such differences



affect the qualifications of girls for various fields of endeavor?

- k. What contributions do the present inspectors make to the improvement of education in the secondary schools and what changes should be made in the system?
  - l. The language problem arises here again. What should be the medium of instruction? Should it be the same for all subjects? What languages should be required; be offered as electives? The present three language formula has little to commend it educationally; what is a better plan?
  - m. What would be the character and personnel of a good guidance system for youths enrolled or planning to enter the secondary schools?
3. The Mudalier report on Secondary Education indicated the following defects in Secondary Education (see pages 21-22 of the report):
- a. "The education in our schools is isolated from life—the curriculum as formulated and presented through the traditional methods of teaching does not give the students insight into the every day world in which they are living. Unless the school is itself organized as a community and is in vital rapport with outside community life, this situation cannot be remedied."
  - b. "It is narrow and one-sided and fails to train the whole personality of the student. For many decades it has provided only academic instruction which meant teaching him a certain number of subjects which adults considered useful."
  - c. "The methods of teaching generally failed to develop in the students either independence of

thought or initiative in action. It is a matter of common complaint that lessons are imparted in a mechanical way giving information which is reluctantly memorized by the students."

- d. "The increase in the size of classes has considerably reduced contact between teachers and pupils, resulting in undermining the training of character and discipline. The average efficiency of teachers has deteriorated and their economic difficulties and lack of social prestige have tended to create in them a sense of frustration."
- e. "The dead weight of the examination has tended to curb the teacher's efficiency, to stereotype the curriculum, to promote mechanical and lifeless methods of teaching, to discourage all spirit of experimentation, and to place the stress upon wrong or unimportant things in education."

These are serious charges made by the Commission in 1953. To what extent do they hold true today? If they are still true, they place a serious responsibility upon the present Commission to change these situations. Mention has been made of the curriculum and the examinations previously, but serious consideration should be given to the quality and nature of the teaching in the secondary schools. This means changing the thinking of the teacher, the curriculum materials, the examination, and the purposes of secondary education. Is this not one of the most important tasks before the Commission?

- 3. The selection and training of secondary teachers is crucial to the success and improvement of secondary education. What factors make secondary

teaching in India undesirable and how can they be removed? This situation does not exist in many leading countries of the world? The teacher training college program has been soundly condemned in recent surveys (see especially the one made last year by the Education Division of the Planning Commission), and a program has been proposed which if implemented would go a long way toward improving the teacher training for secondary teachers (See the Report of the program growing out of the Baroda Conference, March 1964, for an excellent plan for this purpose, well worth implementing by the Commission).

There are doubtless social and economic factors which also need correction to improve the quality of teachers entering the profession. Students and parents also charge teachers with withholding information so they can tutor pupils. How generally true is this? What are the remedies?

4. The administrative overhead in the secondary schools of India seems to be set up to dictate the actions of the teacher and to deprive him of any initiative or experimentation. All over India teachers complain of this. What are administrators doing to impede or to accelerate improvement? What changes should be made in their relationships and responsibilities?
5. Does not the public need much education on the policies adopted by the Commission for all levels of education if it expects to be able to implement them without a great deal of confusion, rebellion, or disregard? What kind of a public relations program should be set up?

6. There is so little communication in the school systems between teachers and administrators, paper setters, examination reader, syllabus and textbook writers. Each feels out of touch with the other. The sharing of common ideas, of experience and information, of helpful suggestions, of common problems, of requests for help of a cooperative rather than a competitive enterprise are needed. This same spirit carries over between students and teachers. What lies back of all of this which can be remedied?
7. Is there any evidence to indicate that the secondary school varies its program or methods to care for differences among the students? Is this not in need of doing? Why should everyone study the same thing, and why should the secondary school turn out a body of pupils all with common experiences, skills, and courses to take the same demanding examination?
8. The personnel policies with reference to educators seem to work against effectiveness and good morale. Do they tend to retard imagination and creative thinking; do they prevent any degree of sustained experience in a given job by their frequent transfers; do they encourage inefficiency by promotion from job to job without adequate training for the job; do they assume that experience is general, not specific, and no special skills are needed; does seniority preference deprive many young people of opportunities for growth and the school of the service of competent fresh talent, often loading upon the school an indifferent, untrained individual; and finally, there are many cases which can be discovered

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where the state has been concerned about protecting the so-called rights of the teacher while completely ignoring the idea that there is likewise a responsibility for protecting the rights of the child? Why should a personnel policy give more protection, for instance, to an absent, negligent, teacher than it does to the pupils who lose by his behaviour? What changes need to be made in the C.C.A. rules?

Note - Some of the questions in Section I already refer to secondary education and are not repeated here.

IV. Basic Problem Area - College and University Education

a. Specific Questions -

1. In the previous sections the question has been raised about the functions and goals of the various levels of education in India. This question is likewise pertinent here. Of special import is the question of the relation of college and university education to the development of India, since presumably those who study for first and post graduate degrees will assume roles of leadership or important senior posts in industry, education, and government. If this is not true, is there any reason why they should go to college? Is it not a wasteful practice to put students in large numbers through college and assign them to positions which do not require their level of education? How can this be changed?

Closely related to this question is the one of the relation between college and university enrolment and manpower requirements. What are these requirements for India? How closely should they be followed in the development of programs, courses, and in the admission of students to higher education?

Related and pertinent also is the question of where the graduates are serving in employment in relation to their training. Is it known to what extent graduates in agriculture, for instance, are serving the improvement of agricultural production and to what extent they are engaged in positions which do not really require their training? The same might be asked of the law, and of engineering training at its present level.

To what extent should India at its present stage of development and with its present resources open

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the doors wide to college students to pursue general academic studies which when the degree is received give the student no employable skill? The basic liberal education for post-graduate study and as a basic subject for teaching are not to be considered in this question.

2. What type of entrance examinations should be given for college entrance? The question has been raised in the section on secondary education and the same question here applies to types and nature of the examination. The present waste among those who pass the school leaving exam, enter college and fail to receive a degree is very large. Since it costs as much to teach a failing student as it does to teach a passing one, cannot much of this waste be eliminated and student enrolment controlled at the same time by the proper examination system?
3. Efforts have been made to introduce a balance of general education into the colleges and universities (some social science, humanities, and natural science for all students, for instance) with only limited success. Also the relation of the courses to the developmental problems of India seems negligible. Are these not important enough areas for implementation? If so, what structure needs to be evolved to do it?

This policy of serving the state and nation with trained manpower, knowledgeable citizens about the problems of economic, social and political development, and of providing consultation to government and industry as well as advancing knowledge through research are the most important functions of a University. Why are these not being given further

opportunity for growth and development in Indian Universities? How can they be encouraged?

4. One does not get the feeling that either students or faculty in the average Indian college, and sometimes in the universities, really take their responsibilities seriously; that more attention is given to obtaining a degree than to getting educated; and that the spirit of innovation, hard work, discovery and experimentation is if not lacking at least too dormant? How true is this? If true, what should be done to correct it?

5. The relations between faculty and student seem to be quite distant and are accentuated by the policy of freeing the teacher from examining the student. There is considerable student indiscipline, sometimes becoming serious and dangerous to the institution and the public. To what extent are these situations correctible and by what means? How can the quality and seriousness of education be elevated and the attitudes and behavior of college students be changed?

6. The language problem here arises again and is especially acute because the degree institutions are training leaders for service throughout all of India. If they are educated to be provincial in their education and thus handicapped by the use of language, to what extent is this worth correcting? How firm should the universities of India be in serving the integration of the best educated people of India and in keeping the intellectual doors of India open to the world? No amount of emotionalism, for instance, can keep a modern doctor informed of the progress in his field without a knowledge of



English, nor can it be done by the adding of a vocabulary from a regional language. The language question takes on quite a different significant turn in higher education from what it does in school education. What is the proper solution to serve the proper functions of colleges and universities? How can the solution be achieved? What should be the medium of instruction in colleges and universities and what languages should be required?

7. What changes should be made in the affiliation system of colleges and universities so as to permit greater freedom with responsibility on the part of the colleges and greater relief from administration on the part of the universities? Would an accreditation system with freedom being given to those qualifying be worthy of consideration?
8. To what extent can adults be elevated in their lack of knowledge and skills by correspondence and extension courses emanating from the colleges and universities? Does there exist both a need and a service which these institutions can and should satisfy?
9. Traditionally the position of Vice-Chancellor in India has been considered an honorary post to be filled by a prominent man in his leisure time or by one retired from other active service. To what extent does this continue to exist in India and to what extent should the Vice-Chancellor be an active, creative, leader for the improvement of university education? What changes should be made to make the Vice-Chancellor responsible for development of his university, to establish accountability, and to make the post one of importance for full time virile and intelligent administrators? Who is now responsible

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who can be held accountable for the character and program of an Indian University? Committees do not provide good administrators.

Closely allied to this is the question of the structure governing the Indian Universities. At present there is little power a Vice-Chancellor can exercise in changing a university. Power resides in the Senate, the Syndicate, the Academic and Executive Councils, Boards of studies, etc. Many of these have sizable numbers of "outside" members who have no day by day responsibilities for the execution of their ideas or positions and may lay the university open to political domination if desired. To what extent should this system be changed? What should be the power of the Vice-Chancellor and his responsibilities; of the Senate and other bodies? Are all of them longer necessary? How can the system be set up to distribute responsibility as desirable and yet at the same time secure progress in changing a university program?

10. To what extent do present personnel policies regarding promotion, transfer, seniority, tenure, and the proportion of different ranks in a department stimulate or discourage improvement and growth on the part of the faculty? What changes need to be made?
11. Emphasis needs to be placed upon quality standards with some uniformity in higher education. The great immigration of students in recent years into higher education has caused an increase in the number of institutions which are expensive. The language problem has brought in duplicating institutions. Sizes and functions vary. There is a feeling that institutions have been planned more to yield to political and local pressure than to a well devised

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master planned program which can be supported. Should not a master plan for the development of Indian colleges and universities, new ones and the expansion of existing ones, be prepared? How could such a Plan be enforced?

In this connection, what is the desirable size of institutions of higher education? The prevailing opinion is that they should be kept small and duplicated. This leads to excessive expense with no compensating return in improvement in the quality of education. It means the duplication of libraries and laboratories, administrative staff and classrooms. Closely related to this is the large waste in the utilization of present buildings which could be prevented if a more closely guarded and tightly controlled schedule were followed. To what extent can India afford to waste its resources by practices which follow traditional ideas rather than more sound economic ideas and at the same time secure greater educational facilities with less cost?

12. How much should India expect to spend for higher education to keep in balance the needs for funds for all levels of education? Akin to this question, of course, is how many should India educate on the college and university level during the next few years, and the question raised under item 11 regarding the most economical use of facilities.

J. Paul Leonard  
Chief of Party  
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New Delhi, India

November 15, 1964

Scientific Policy Resolution

Science has developed at an ever-increasing pace since the beginning of the century, so that the gap between the advanced and backward countries has widened more and more. It is only by adopting the most vigorous measures and by putting forward our utmost effort into the development of science that we can bridge the gap. It is an inherent obligation of a great country like India, with its traditions of scholarship and original thinking and its great cultural heritage, to participate fully in the march of science which is probably mankind's greatest enterprise to-day.

And the statement continues:

The Government of India have accordingly decided that the aims of their scientific policy will be:

- (i) to foster, promote, and sustain, by all appropriate means, the cultivation of science, and scientific research in all its aspects - pure, applied, and educational;
- (ii) to ensure an adequate supply, within the country of research scientists of the highest quality, and to recognise their work as an important component of the strength of the nation;
- (iii) to encourage, and initiate, with all possible speed, programmes for the training of scientific and technical personnel, on a scale adequate to fulfil the country's needs in science and education, agriculture and industry, and defence;
- (iv) to ensure that the creative talent of men and women is dissemination of knowledge, and for the discovery of new knowledge, in an atmosphere of academic freedom;
- (v) to encourage individual initiative for the acquisition and dissemination of knowledge, and for the discovery of new knowledge, in an atmosphere of academic freedom;
- (vi) and, in general, to secure for the people of the country all the benefits that can accrue from the acquisition and application of scientific knowledge.

The Government of India have decided to pursue and accomplish these aims by offering good conditions of service to scientists and according them an honoured position, by associating scientists with the formulation of policies, and by taking such other measures as may be deemed necessary from time to time.

This is a most heartening and welcome policy statement giving explicit recognition to the role and importance of science and technology in the affairs and progress of the country. To give concrete shape to this policy is no easy thing, no royal road. It requires relentless effort and vigorous action by the Government, the scientific community and the public generally. There is no doubt that a great beginning has been made. We have taken the first steps, and

in this venture the first steps are particularly difficult. As science grows in the country, its influence and effectiveness increases extremely rapidly. The interaction between science and society is a dynamic and an evolving thing.

### The Scientific Revolution

It needs no reminding these days that, in a historical sense, the most conspicuous feature of the modern world is science. We do not quite understand why the Scientific Revolution - the term is used here in its broad sense - was not realised by the great civilisations of antiquity: why and how it originated in Western Europe only a few centuries ago and then spread and is spreading all over the world? May be, to start with it was in the nature of a 'spontaneous fluctuation' which because of a peculiar combination of socio-economic factors, aided by colonial expansion, revival of ancient learning and an atmosphere of religious ferment gathered momentum rapidly instead of evaporating away as probably happened with somewhat similar events in earlier times. We do not understand why the growth of science during the preceding two hundred years or so has occurred at an almost terrific pace - the doubling period of science is around 15 years. Much study and research in the history of science and social sciences would be necessary before we could hope to understand these things.

Let us for a moment see the Scientific Revolution against the backdrop of history - the evolution of the universe. It is meaningful to assign to the universe an age of 20-30 billion years (1 billion = 1,000 million). The sun is 10 billion years old, and it has about the same length of time ahead of it. As against this, the highly luminous B-type star has a lifetime of a few million years only. Incidentally, the sun is a second, or even, a later generation star as revealed by its chemical constitution. The first generation stars were originally of pure hydrogen which was transformed in their extremely hot interiors into different elements ranging from helium to uranium. Some of these stars exploded in the course of their career, and scattered into space the elements synthesised in their deep interiors. These later found their way into new stars under formation - the second generation stars. One of them is our sun. The earth in its present form is about 5 billion years old. The most primitive forms of living organisms appeared on the earth perhaps 2 billion years ago; the first birds and mammals are about 200 million years old. Man appeared between 1-2 million years ago. Agriculture seems to be no more than 10,000 years old; and the first writing was invented some 6,000 years ago. Science, as an important element in determining man's economic, cultural and spiritual 'climate', has been in operation for less than two centuries. Man is now harnessing, under controlled conditions, a source of energy million times more powerful than chemical energy. Harnessing nuclear energy demands deep insight and considerable progress in fundamental science, as distinct from empirical arts and crafts. It seems that man is now truly entering the 'age of homo sapiens' when he can aspire to be a citizen not only of the One World in the making, but a citizen of the universe. And it is no mean universe. We do not know whether the universe is finite or infinite, but progress in radio astronomy is likely to provide an answer to this great question within the next few years. The explored part of the universe is populated

by some ten billion galaxies, and each galaxy contains some hundred billion stars. A typical galaxy has a diameter of hundred-thousand light years; inter-stellar gas makes one to ten per cent of its total mass. During recent years planetary systems other than belonging to our sun have been discovered. (It is easy to show that for a planet the maximum size (radius) cannot be larger than about that of Jupiter.) It is almost certain that intelligent life is no monopoly of the earth. Maybe, at no distant date man may succeed in linking himself to a 'cosmic telephone network'.

### Science Stresses Cooperation

The real strength of science lies in its relentless, vigorous and fearless pursuit of truth. Scientific laboratories which less than a hundred years ago were a curiosity and a rarity are now studded all over the globe. (Science teaching in India first started in the Calcutta Hindu College (which later became the Presidency College) founded in 1817 under the leadership of Raja Rammchun Roy.) Any discovery made anywhere soon becomes the common property of all. The language of science is a common language, and its achievements the heritage of all - the only truly common heritage. The world of science is an open one, and this has not altered essentially despite certain aberrations it has suffered because of its close connection with the apparatus of war. An example of cumulative effort that at once comes to our mind is that all particles in nature, be those electrons, anti-protons, neutrinos, or what not, must belong to one of two classes. One class of particles are called fermions after Enrico Fermi (who first realised the nuclear fission chain reaction in December, 1942), and the other class is called bosons after Professor Satyen Bose. Bose and Fermi were the first to study, about 1924, the relevant quantum statistics. Science gives first place to cooperation and not competition, and its roots lie deep in man's highest capabilities and aspirations. With the growth of science, further research generally becomes increasingly complex and costly. In some highly specialised and sophisticated fields, cooperative effort on a more or less world-wide basis becomes almost a necessity, e.g., manned flight to the moon or even the 1,000 billion electron-volt accelerator required for investigating the interactions between elementary processes (the direction of the flow of time can be experimentally determined).

As a direct contribution of science, the average span of human life (expectation of life at birth) has increased everywhere, and in some countries it is three times of what it was a few hundred years ago. Whatever the conflicts and bigotries that afflicts the world today, there is no denying that we are witnessing, for the first time, cooperation in science and other fields on a scale and extent never attained before. Less than two years ago the U.N. General Assembly adopted a proposal that through concerted effort of the 'rich' countries, the less developed countries be assisted to achieve by the end of the present decade an annual rate of growth of at least 5 per cent in their national economy (that is about 2.5 per cent yearly

increase in per capita income). A five per cent rate of growth corresponds to a doubling period of 15 years. The growth-rate of the national economy during recent years has been about 4 per cent for the U.S.A., and about twice this for the USSR. To attain the above target the countries concerned would need probably an economic aid of the order of \$ 10 billion on a long-term basis: this is about one per cent of the yearly national incomes of the rich countries. Incidentally, \$ 10 billion is about one tenth of the yearly expenditure of defence by them. One cannot be wholly rational in these matters, but it seems that world prosperity would be much easier to realise if there were world disarmament.

#### Science Introduces Unpredictability in the March of Ever

The overwhelming impact of science on society has for the first time in human history introduced an element of unpredictability and uncertainty not present in earlier times. It raises from the basic fact that in the very nature of things, fundamental discoveries in science are inherently unpredictable. When in 1905 Einstein established as a direct consequence of the theory of relativity the equivalence between mass and energy - the famous equation  $E=mc^2$  - who could have even imagined that within half a century it would constitute the basis of nuclear weapons of colossal power of destruction making nonsense of the classical concept of war. The abstract, the so-called 'useless', is often the shortest road to the concrete and the 'useful' but the road is not known in advance. Broadly speaking, we can only plan for science but we cannot plan science.

In passing, one may mention that the above reference to the unpredictability in history has no relation with the ultimate question of freedom and creativity versus necessity and determinism of historical events: do men direct and control the stream of history or is it that the stream carries man, like floating straw in a river, along a predestined course? This is an unanswered question, but is it a valid question to ask, or is it a pseudo-question which we ask because we do not have knowledge enough not to ask it - we do not quite know. We may recall the observation of Einstein:

I do not at all believe in human freedom in the philosophical sense. Everybody acts not only under external compulsion but also in accordance with inner necessity. Schopenhauer's saying, "A man can do what he wants, but not want what he wants," has been a very real inspiration to me since my youth; it has been a continual consolation in the face of life's hardships, my own and others', and an unfailing wellspring of tolerance. This realization mercifully mitigates the easily paralysing sense of responsibility and prevents us from taking ourselves and other people all too

Freud held that our conviction about freedom of choice is illusory. Where we feel we have exercised free choice "we actually leave the matter to be decided by our unconscious mind and then claim the credit for the outcome. If unconscious mind is taken into account, therefore, the rule of determinism is of general validity."

Apart from the element of unpredictability injected by science in the march of events, the other two important characteristics of the Scientific Revolution are the rate of growth of science and the new role and significance of the universities.

#### Growth Rate of Science

Consider the rate of growth. The total achievement to date in science and technology is indeed remarkable, but even more striking is the rate or pace of progress. A number of different indices indicate, as brought out clearly in the pioneering study of de S. Price, that over the last 200 years or so, scientific knowledge and things directly related to science have been growing at an average rate of 5-7 per cent a year. This corresponds to a doubling time of 10-15 years. As an illustration, take the case of science journals, a key innovation of the Scientific Revolution. Beginning with a handful of journals about 1750 A.D., the number rose to about 1,000 in 1850 A.D. and is now nearing 100,000. Probably, it would reach a million by the end of the century. In the case of papers notified to be read at our Science Congress, the number was 35 at the first session of the Congress in 1914. (The Congress during the first year had an income of Rs.883/- and an expenditure of Rs.504/-). The number of papers rose to 900 at the Silver Jubilee Session in 1938, and it was 1,300 for the 1962 Session. These figures show an average doubling time of somewhat less than 10 years. (Curiously enough, even the number of elementary particles discovered during the last few decades show a doubling period of 10 years.) The number of scientists has been rapidly increasing at about the same rate. It has been said that the number of Scientists at any time is roughly one-third the number of papers published upto that time. This applies to the number, and also to the extent and depth of knowledge, but, of course, not to the quality of mind. We do not expect an Archimedes or an Aryabhatta of today to have a really superior mind than his predecessor. (The situation in this respect is somewhat similar to that of the life-span. The mean life-span as a consequence of science has increased considerably, but the maximum life-span has remained about the same).

Notice that a doubling period of 15 years means that about 90 per cent of the scientists who ever lived are with us now. Frankly, we do not understand why the doubling time of science should be around 10-15 years. Of course, this exponential rate of growth cannot continue indefinitely. If the present rate of increase in the number of scientists were to continue for another hundred years or so, the number of scientists would exceed the total world population - an obvious impossibility. Sooner or later, therefore, the growth rate of science would come down, and perhaps level off



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eventually with the growth-rate of population. In fact, the first signs of an onset of saturation are visible today in the countries which are in the vanguard of science. A consequence of the exponentially expanding science is that the time gap between basic discovery and its application is continually diminishing. It was a few decades in the last century. It is now less than a decade as vividly illustrated by transistor and now by laser. So rapid is the pace of scientific progress that a scientific paper is often out of date by the time it is in print; a graduate is almost obsolescent on the day of his graduation; a weapon-system already obsolete by the time it is in production.

Rich Countries and Poor Countries

In the contemporary world, rich countries are those which are rich in science and poor are those which are poor in science. This division of humanity into rich and poor is relatively a new thing, and has arisen because some countries have been fortunate to exploit science more fully than others: it is an unfortunate by-product of the Scientific Revolution. In the rich countries the economy is dynamic and in most of the poor, it is almost static. This implies that the gap between the rich and poor humanity is not only large but widening rapidly with time. Often the price of agricultural produce in the poor countries remains constant, whereas the price of industrial goods manufactured by the rich countries rises continually. This makes it all the more difficult for the developing countries to import the much needed capital equipment and machinery to raise their production. For instance (as Paul Hoffman pointed out), the under-developed part of the world received in 1958 a total of \$ 2.4 billion in aid, but at the same time it lost \$ 2 billion in import capacity for having to pay more for manufactured goods and getting less for its agricultural produce. Such things tend to dilute, to a considerable extent, the impact of aid given to developing countries. It should be possible, of course, to devise ways which would overcome this and related difficulties, but this will require great vision and courageous statesmanship. The wide gap between the developed and underdeveloped world is detrimental to the real interests of both. The earnings of a proportion of our population equal to that of the total population of U.K. are no more than what the people of U.K. spend on cigarettes and tobacco. It is now established that smoking raises considerably the incidence of lung cancer. If what is spent on smoking by the rich world were passed on to the newly developing countries to assist their food production, it would benefit both. In this connection it is good to remember that the prosperity of the rich countries is due in no small measure to the contribution in material resources, craftsmanship and brains made by other countries. As an example of the uncommonly high level of handicrafts in India, we may recall Halley's (Secretary to the Royal Society) letter of 1686: "I have seen a great curiosity viz., a calicoe shirt brought from India, which is woven without a seam all of one piece, which I should have thought impossible had I not seen it. It explains the Scripture relation of our Saviours coat which was without seam."

### 'Seeding Nuclei' for Exponential Growth

In former times when one country helped another, or was forced to assist another by political pressure or war, the "donor country" lost what was gained by the 'recipient country'. If it was a transfer of land or other material resources, one country could only gain it at the expense of the other. But in the contemporary world as progress and prosperity depend mainly upon harnessing science and technology, the situation is very different. By imparting scientific knowledge and techniques to a less developed country, a donor country loses nothing - this is, of course, an over-simplification. It is of some importance to recognise that an exponential growth rate of science (with a doubling period much less than the population doubling period) fortunately makes it possible for an "advanced country", if it so desires, to make a major contribution towards the rapid development of a newly developing country: it could supply an adequate number of technical men, material resources, etc. to serve as 'seeding nuclei' for the operation of the exponential growth process in the recipient country, without sensibly affecting its own economy or rate of progress. Of course, aid is no substitute for local initiative and effort. In a sense aid is deserved only if one could do also without it, but the pace would be slower. This is not the place to pursue the subject further, but it is apparent that the main obstacles to rapid progress are now largely social and psychological: there is no lack of resources.

A country which has newly 'taken-off' in science can with determination achieve a growth-rate higher than that achieved by the 'early starters'. Some countries have done it. It seems that the early starters and the late starters would, after some time, join together and have a growth rate corresponding to the stage of saturation.

### Science and Agriculture

In countries where agriculture has been modernised the output has increased rapidly. Where agriculture has not been linked to science, the output has remained almost stationary. Thus, as Lord Rutherford pointed out in his Address to the Silver Jubilee Session of the Indian Science Congress in 1938, the annual production of wheat in India had risen since 1914 from 8.3 million tons to no more than 9.5 million tons, while the exports in the same period had fallen from over a million tons to 10,000 tons. The present yield of wheat is about 11 million tons. Rutherford said: "In view of these facts, it would seem clear that, in any national scheme of research, research on foodstuffs has a primary claim on India's attention. Quite apart from improvements in the systems of agriculture used in India, there is a vast field for the application of scientific knowledge to the improvement of crops, for example, by seeking for improved strains suitable for local conditions, by research on fertilizers and in many other directions". And all this is no less true today.

### R and D Expenditure and Scientific Manpower

Money spent on research and development is not an entirely satisfactory index of the development of science in a country. Much would depend upon the efficiency with which the resources are utilised. All the same, within limits, this is an index of considerable significance. The U.S.A. Government currently spends somewhat more than 2.8 per cent of the Gross National Product (GNP) on research and development and testing of new defence equipment. The amount is more than \$ 15 billion, that is Rs. 7,500 crores per year. (Industry contributes an additional \$ 5 billion or so.) More than three-fourths of the amount goes to work related to defence. The current level of research and development expenditure in our country is some 0.2 per cent of the GNP. In this context it is important to recognise that the research and development expenditure in countries which have passed the 'take-off' stage in science has been increasing very rapidly during recent decades: the doubling period is less than 10 years. About 20 years ago the U.S.A., Government and Industry, spent about 0.5 per cent of GNP on research and development - it was 0.1 per cent in 1930. (In 1940 the Government spent \$ 74 million, and \$ 2 billion in 1953, on R and D.)

The U.K. Government in 1939 spent on scientific research £ 3.5 million; the current figure is £ 45 million, representing a four-fold increase in real terms. The total expenditure by government and industry on research and development was £ 300 million in 1956 and £ 630 million in 1962 - a rise from 1.7 per cent of the GNP to 2.7 per cent. The present research and development budget exceeds the total government budget of some decades ago - In 1909 the total budget was about £ 150 million.

We can have more research only when there are more men to do it. In the U.S.A. the number of professionally qualified scientists and engineers constitute about 1.5 per cent of the population. (In 1900 the percentage was 0.6 only. But 1970 it is expected to be 2 per cent.) There is a close and direct connection between the percentage of national income spent on research and development and the number of scientists and technologists expressed as a percentage of the total population. We cannot have one high and the other low without leading to inefficiency and wastage. To do more science we need more scientists. Investment on science and investment on man go together (Figure I). This brings us to the third major characteristic of the Scientific Revolution.

### Science and Humanism

In the early days of the Scientific Revolution science had hardly any place in the universities, though there were some individual contributions of the highest rank. Science was often sneered at and its votaries held to ridicule. Steele wrote in The Tatler commenting on a paper on a brainless child, published in the Transactions of the Royal Society, that it was a pity the child did not live long enough for, otherwise he would have made a fit President of the Royal Society. To believe in magic and sorcery was an index of progressive views. Medical astrology was regarded as the crown of medical science. Objective and verifiable knowledge of nature which could liberate man's mind from superstition, fear and shackles of authority was lacking. The reigning subjects

in the universities at the time were theology, grammar, rhetoric and astrology. With the progress of the Scientific Revolution science found its way into the universities; but it had to meet with opposition and it was admitted reluctantly. The situation now, of course, is completely different and, if anything, the pendulum tends to swing a little too much on the other side. Incidentally, what happened once with science is to some extent happening today with technology. Our Association can play an important role in bringing about an adequate recognition of the humanistic side of science and technology. Properly taught, science and technology have as much (if not more) humanising influence as any other combination of subjects. Our Association should also give serious attention towards creating a public awareness of the basic needs and requirements of science - support of science eventually depends upon enlightened public interest in science.

Barometer of Science

In the modern world, the universities make by far the largest contribution to fundamental science. This has given a new status and a new significance to the place and role of the universities in national economy. In fact, the level of science and technology in the universities provides a reasonably good barometer to the standard and health of science and technology in the country. In a developing country the strengthening of the universities is fundamental to everything else.

Combination of Teaching and Research

The experience of more than a century, beginning with the great German Universities, has clearly shown that teaching and research flourish best in combination: in isolation they both wither. The best of either is achieved in an environment where both are cultivated. In this combination of teaching and research, education and discovery, lies the real strength of the universities.

In the U.K. about 50 per cent of the expenditure in the universities, as also the time of the teaching staff, is spent on research. The US Government in 1962 spent nearly \$ one billion (Rs. 500 crores) on research and development in the universities. This was seventy times larger than the amount spent in 1940. A recent Report on 'Meeting Manpower Needs in Science and Technology' by the US President's Science Advisory Committee has strongly urged that in order to meet the nation's urgent needs the output of first degree holders in engineering, mathematics and physical sciences, as also the output of doctorates, be doubled by 1970. This would require a yearly expenditure of \$ 8 billion, (\$ 2.7 billion on research) as against the present figure of \$ 3 billion. In 1961 about 645,000 students were enrolled in the USA for degrees in science and engineering, and the number of teachers was about 100,000.

There was a time about a hundred years ago when a gifted individual could encompass the whole of science. This is no longer true today. Science and technology are now divided into some 100-150 subjects. The division is often arbitrary. It is hardly possible for any person today to master even one subject. The fragmentation of science, if it is not to become a self-defeating process, has to be supplemented by cross

communications cutting across subject-barriers. There must be a continuing re-shuffling of boundaries between subjects. Fragmentation is artificial: science, in a sense, is a unity.

### Revolution in Curriculum

Let us for a moment turn to physics. How are students and teachers to keep pace with the subject growing bigger every day at an exponential rate? There is so much to learn to-day; and there is so much more to learn with every passing year. It is apparent that if we are to cope with the explosion of knowledge we need a veritable revolution in curriculum, in methods of teaching and in methods of learning. Anything which is of a passing interest, which has only a limited relevance, which does not help to broaden and strengthen understanding, can have no place in a high school or undergraduate course. Also, we need greater stress on mathematics as the basic tool for understanding physics. To bring about this desperately needed revolution in syllabus and nothing short of a revolution will do we require the combined effort of top university researcher-teachers and the school teachers. We need channels of communication between the schools and the universities. The PSSC book produced by a band of outstanding US physicists and teachers from universities and schools is a magnificent example of cooperative effort. The book has been successfully tried in hundreds of schools in the USA. Even more important than the contents of the book is its highly commendable, novel and bold approach. Preparation of similar text books in science subjects suited to our secondary schools is in hand. If the programme of the production of first-rate text books and other work is to succeed, the writing of such books should be given recognition (by the Weinberg Report on 'Science-Government, and Information' (1963)). Scientific and technical books are generally very expensive. It is most important to arrange for the production of cheap editions and paper backs to bring them within easy reach of our students.

### Climate of Free Enquiry and Scientific Tradition

Progress in science requires a 'climate' of free enquiry, frank and vigorous criticism and fearless expression of opinion. This becomes easier to organise, promote and foster if there are strong universities with front rank schools of postgraduate studies and research. It is important that a substantial proportion of the best men and leaders of science in the country should be in the universities, in contact with an inspiring young minds and sharing in their joys and difficulties. Also every endeavour should be made to increase the proportion of men at the working bench to those at the administration desk: to raise the proportion of small and modest laboratories doing big work to big laboratories doing small work.

To establish scientific traditions in a developing country needs deliberate effort and it also takes time. To quote Michael Polyani: "Those who have visited the parts of the world where scientific life is just beginning, know the back-breaking struggle that the lack of scientific tradition imposes on the pioneers. Here research work stagnates for lack of stimulus, there it runs wild in absence of any proper directive influence. Unsound reputation grows like mushrooms: based on nothing but commonplace achievements, or even on mere empty boasts ... However rich the fund of local genius may be, such environments will fail to bring it to fruition."

It is generally true that creativity of an individual continues longer in a university environment than elsewhere because of the continuing challenge of youth. A recent editorial in Science said - the path to new discovery for a scientist who has already made his reputation is often blocked by too much equipment, too much money, and too much seeking after status and security. There is (relatively) little danger of this happening in a university.

It has been said that as a recipe for slowing down the progress of science, there is perhaps hardly any better than to provide a big network of committees, give them great prestige, and put on them the best men, the most active scientists from the laboratories.

### Team Work in Science

Scientific work is now increasingly becoming more and more of a team effort. In a sense this is inherent and instrumental in bringing about a rapid progress of science. Problems have become increasingly complex needing increasing elaborate equipment. The importance of team work in science was particularly brought out during World War II. It paid rich dividends. The most successful laboratories functioned almost like large families where the members shared together the joys and disappointments of work.

In developing and promoting this spirit of team work, the contribution of the universities is of special value. As Frederick Seitz, President of the U.S. National Academy of Sciences observed in a recent address: "What is emphasized here is that in the main the concept of teamwork in science has evolved most rapidly and most effectively through university channels during the past forty years."

### Balance in Allocation of Resources

It is apparent that if good results in education are to be achieved there must be a reasonable balance and coordination between resources allocated to teaching in science, engineering, agriculture and other subjects. There has to be a proper distribution of resources over the whole educational spectrum. To unduly concentrate on one sector at the expense of others may put the machine out-of-gear and result in a waste of resources.

If research institutions outside the universities expand at too rapid a pace this would result in depleting the universities expand at too rapid a pace this would result in depleting the universities of their men, and may be also the money which should go to them. In the long run weak universities would inevitably weaken the research institutions. In this context the report by the (U.K.) Institute of Physics and the Physical Society, just issued, is of considerable interest. Commenting on it The Economist (London) has said:

The two learned bodies are alarmed at the way good physicists are absorbed into government establishments, lured by salaries and by research facilities that they could never hope to find outside them (few organisations pay scientists as well as, for example, the Atomic Energy Authority). Once there, they are lost forever to the universities, to teaching and to science

generally. The universities see their own teaching standards in danger because good scientists will stay to teach only if they have facilities for research, and the universities are denied the right to provide those facilities because they have already been installed behind some government security fence.

Underlying this complaint is the brutal fact that many of these government establishments have turned to university-type pure research because they are no longer required for their original purpose. Much of the work now done by the Atomic Energy Authority is of highly academic nature. So is the work done by the Ministry of Aviation's radar research centre at Malvern. They are openly poaching on the universities' preserves, but what would one have them do, leave their equipment idle and their skilled staff under-employed? The problem of providing for the free exchange of research staff between universities and government establishments is one that has exercised several committees of investigation and none has come up with any apparently workable solution, not least because, as the report stresses, the difference in salaries paid presents insuperable difficulties to all but the most unworldly. (The Economist, 31 August, 1963).

When there is a deficiency of competent men, it is wiser to invest them generally in the universities, thus combining teaching and research. If the investment and effort exceed a certain critical size (and with proper feed-back), it would generate a sort of chain process providing many more of more able men.

#### Cost of Education

It is an interesting fact that over a wide range of countries the cost per student on university education excluding board and lodging is comparable to the per capita national income. Thus, the expenditure per university student is roughly Rs.400 in India as against £ 600 in the U.K. and \$ 3,000 in U.S.A. The U.S.A. figures faculty wiser are: Humanities - \$ 3,200; Education - \$ 3,300; Social Sciences - \$ 3,250; Biological Sciences - \$ 3,374, Physical Sciences and Mathematics - \$ 3,380; Engineering - \$ 4,020; The President's Science Advisory Committee Report on 'Meeting Manpower Needs in Science and Technology. A University lecturer's salary in the U.K. is about twice the per capita income. In India it is more than fifteen times the per capita income.

#### Centre of Advanced Study and Research

At the level of research and postgraduate work, expenditure even in newly developing countries has to be roughly comparable to that in more advanced countries. With limited resources of developing countries this can only be brought about by concentration of resources. By co-ordination amongst the universities and by careful selection it should be possible to develop a modest number of 'centres of excellence'. In other words, one should aim at establishing high peaks - 'centres of advanced study' in carefully selected subjects and universities. These centres would serve as 'breeders' for new centres of excellence. Concentration of effort in the initial stages is a vital thing for developing countries. Also, there must be close cooperation between universities, national laboratories and other research organisations so that in the establishment of the centres fullest use is made of all available resources.

Also as Lord Hailsham has pointed out in his recent book on Science and Politics (1963) a healthy relationship between government and universities is of central importance in ensuring a balanced and fruitful interaction between government and science generally.

The conclusions are simple and apparent. But often it is the obvious things which are the hardest to implement.

(i) Everything possible should be done to strengthen the universities (e.g., improvement of teacher to pupil ratio, library and laboratory facilities) specially at the postgraduate and research level; this should be a key point in the plan and pattern of deployment of the country's resources in talent and facilities. In the context of the present meagre level of facilities, the layout on the universities should at least be doubled in five years.

Strong postgraduate schools are our most urgent requirement; and to organise these effectively all available resources of the universities, national laboratories and other agencies would need to be pooled together.

(ii) In the universities, good work, good teaching and good research should be energetically and generously supported at all levels. In science the output in terms of achievement is directly proportional to the input in terms of hard and honest work.

(iii) Contacts (including movements and exchange of scientific staff) between the universities and national laboratories, scientific government (1960) departments, and industry should be vigorously promoted and strengthened. Any one who has a real competency and willingness to participate in university work should be encouraged to do so - so great and urgent is our need that all resources need to be fully exploited.

(iv) 'Right Climate', leadership and dedication are important factors in promoting team work and in generating scientific work of high quality. Able and gifted men should be given every opportunity for concentrated and sustained work free from petty worries and distractions. In scientific establishments the administrative load, and 'routine' should be cut down to a minimum.

(v) Our resources are limited, so one has to spend more thought to get more out of our resources - spending thought is more difficult than spending money.

The U.S. President's Science Advisory Committee in its recent Report on 'Scientific Progress, the Universities and the Federal Government' (1960) (prepared under the chairmanship of Professor G.T. Seaborg, now Chairman of the Atomic Energy Commission) states: "Both basic research and graduate education must be supported in terms of the welfare of society as a whole. It is in this large sense that the role of the Federal Government is inevitably central. The truth is as simple as it is important: whether the quantity and quality of basic research and graduate education in the United States will be adequate or inadequate depends primarily upon the government of the United States. From this responsibility the Federal Government has no escape. Either it will find the policies - and the resources - which permit our universities to flourish and their duties to be adequately discharged - or no one will."



These are wise and powerful words, and they apply to us no less. And, there is perhaps no finer vision of a university placed before us than what Shri Nehru said at a University Convocation some years ago: "A University stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search for truth. It stands for the onward march of the human race towards even higher objectives. If the universities discharge their duties adequately, then it is well with the nation and the people."

That Science has radically altered man's material environment needs no saying. It has brought within reach of common man (but not everywhere so far) a level of prosperity never attained before. At all times great seers and sages have dreamt of such a world, but till now the necessary means, depending as they do on science and technology, have been lacking. In the great civilisations and cultures of antiquity, and as also of later times, slave labour was an integral element. Aristotle said slavery could only be abolished when machines could be invented to do manual work. This is what has happened, but it has taken more than two thousand years to do it. Just as machines have now liberated man of manual drudgery, so the new developments in cybernetics - computation and automation - could in the near future take away from him the burden of boring work and mental drudgery. Again, whereas till now it has been the pressure of environment which has influenced the course of organic evolution, now man using his unique faculty of mind and utilising the power that the discovery of science has given him can, it appears, shape in a deliberate way his own destiny.

The pursuit of material affluence and power, which has been till now a dominant thing, is likely to give way to pursuit of higher values and fulfilment in a deeper sense - 'fulfilment society' to use Huxley's term. This is what Acharya Vinoba Bhave calls the age of science and spirituality. All this would come if man can escape a nuclear holocaust. There is no hiding the grim fact that man today faces an unprecedented peril in depth and extent in the shape of a possible misuse, deliberate or accidental, of nuclear knowledge. The explosion energy released in war by man in all history totals to about 5 million tons (5 megatons) of chemical explosive, say, T.N.T. The total energy released in nuclear test explosions during these years of 'peace' is equivalent to more than 500 megatons of T.N.T. If a full-scale nuclear war breaks out the explosion energy may reach tens of thousands of megatons, and hundreds of millions of fatalities in the first few hours to a few days of the outburst of war. 5-500-50,000 MT are the awesome numbers of our times. Atom and ahimsa, or to put it different man's knowledge of outer space and the space within his skull, are not in balance. It is this imbalance which mankind must seek to redress.

Man now faces himself. He faces the choice of rolling down an abyss to partial extinction or raising himself to new heights of fulfilment as yet unimagined.\*

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\*Address by Dr. D.S. Kothari to the Fiftieth Session of the Indian Science Congress Association, 1963.

Item No.20EDUCATION COMMISSION  
(GOVERNMENT OF INDIA)

Subject:- Training of In-Service teachers for the Higher Secondary Schools in connection with the introduction of Three Year Degree Course:- Madras University.

The introduction of the higher secondary course created the problem of the paucity of trained and qualified teachers especially in the eleventh class of the higher secondary school.

The Central Advisory Board of Education, therefore, recommended in February 1968 that facilities might be provided to in-service teachers in secondary schools to acquire Masters' degree or post-graduate Diploma either by attending special condensed courses or vocation courses or evening classes.

The University of Madras was the first to apply to the University Grants Commission for starting such facilities for the practising teachers of the State. The Commission approved the scheme in principle, at their meeting held on 9th and 10th February, 1959. It was also agreed that if the Madras scheme proved successful, similar schemes might be approved, if so desired. Later, at the Commission's meeting held on 30th October, 1959, the following grants were sanctioned to the University of Madras for a period of 3-years with effect from 1960-61:

<u>Nature of grant</u>	<u>Approved Expenditure</u>	<u>U.G.C. share</u>
NR	2,00,000	1,33,333 (@ 66 $\frac{2}{3}$ %)
R	1,09,400 (p.a.)	54,700 (@ 50% p.a. for 3-years only)

The certificate course was started in 1959 and the M.Sc in 1960. Under the scheme 5 Readers, 8 Lecturers, 3 Demonstrators and 2 Laboratory Attendants were appointed. The University trained 26 teachers for the M.Sc degree and 66 for the certificate course as under:

<u>Year</u>	<u>M.Sc</u>	<u>Certificate</u>
1959-60	-	25
1960-61	14	16
1961-62	9	25
1962-63	3	-
Total:	<u>26</u>	<u>66</u>

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The Government of Madras, which was sharing expenditure on the scheme withdrew its assistance for the following reasons:-

- (i) that the old scheme of 11-year schooling for the S.S.L.C. which ensured quite a good standard must be continued;
- (ii) that it was not possible to upgrade the High Schools to the Higher Secondary standard; and
- (iii) That the TUC conducted at the colleges may be allowed to continue.

Consequently, the University terminated the scheme from the academic session 1963-64 although in its opinion "the certificate course and condensed M.Sc course provided, no doubt, a high standard of attainment for the teachers who underwent the courses and would have provided the necessary personnel to man the Higher Secondary Schools".

Grants payable by the Commission against expenditure incurred upto 31.3.1963, under the scheme, have since been finalised and paid to the University as under:-

NR	Rs 52,560.30
R	Rs 98,617.13

The construction of a building was also approved. As the building could not be completed upto 31.3.1963, an estimated expenditure of Rs 54,577/- at sharing basis of 2/3 and 1/3 was approved to complete it for development of University Science Departments as the Science Departments of the University located in the main A.C. College, Madras, were in need of additional accommodation.

Proposals on the lines of the Madras scheme were received from the Universities of Utkal, Ranchi, Saugar and Bhagalpur during 1961 and 1962. Considerations of these schemes was postponed for want of evaluation of the Madras scheme.

Three years ago a scheme analogous to the Madras scheme was implemented by the Utkal University in cooperation with the State Government of Orissa for the training of post-graduate teachers in arts subjects. The University instituted a post-graduate diploma course of one year. Admission was open to all qualified trained teachers who desired to upgrade their academic qualifications. The University in consultation with the State Government abolished the diploma course after two years because there were not enough candidates. The State Government also was not very enthusiastic about the scheme first because the post-graduate diploma holders could not be considered at par with post-graduate degree holders and thus were not eligible for the post-graduate grade of teachers and secondly because, as in Madras, the rate of upgrading high into higher secondary schools was very slow. More than 90% of the Orissa schools are of the high school type; the possibility of upgrading these schools is meagre. The need for post-graduate teachers is, therefore, not pressing. In fact, the Government is contemplating to experiment with the technical high schools instead of further decreasing the number of higher secondary schools.

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In this connection it may be mentioned that the Universities of Calcutta and Gauhati have, in collaboration with their State Governments, introduced short-term diploma courses for upgrading the academic qualification of teachers for equipping them to teach in the eleventh class of the higher secondary school. These programmes continue because the number of higher secondary school in these States is already quite large and is increasing.

The abolition of certificate and diploma course in the University of Madras and of the post-graduate diploma in Utkal University does not necessarily mean that the scheme has failed. The abolition of the scheme is merely a recognition of the principle of demand and supply of teachers. The scheme was stopped in Madras because the Government had decided to revert to the old pattern for which the existing system of teacher training was considered quite adequate. The scheme was discontinued in Orissa because of lack of adequate incentive to the candidates of this course.

Though the Commission is not directly concerned with school education, the training of teachers for schools is concern of the University sector and as such the Commission is interested in it. Towards this end, the Commission has made available to teachers training colleges its assistance under all the schemes which have been sponsored for the improvement of affiliated colleges. The Commission is also actively concerned with the holding of workshops, seminars and summer schools for the benefit of college teachers in cooperating with the NCERT and the U.S.Aid.

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EDUCATION COMMISSION  
GOVERNMENT OF INDIA

Item No.21

Subject:- List of memoranda received till the 21st  
November 1964.

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The following memoranda have been received in  
the office of the Commission till the evening of 21st  
November, 1964:

Serial No.	Name and address of the person submitting the memorandum.	Subject of the memorandum
1.	Prof. D.D. Karve, Poona	Some problems of higher education (medium of instruction, standards, examinations and general)
2.	Hingne Stree-Shikshan Samastha, Poona	Girls Education
3.	Shri S.S.Patke, Superintendent; Mahilashram High School, Poona-4.	Various matters
4.	Dr. K.C. Vyas, Bombay	Main problems facing the Education Commission.
5.	Mr. J.T.M. Gibson, Principal, Mayo College, Ajmer.	Examinations and improvement of university standards.
6.	Major R.Som Dutt, Headmaster, the Lawrence School, Sanawar (Simla Hills), Punjab.	The replacement of examinations by a system of weekly tests and/or examinations.
7.	Dr. P.K.Kelkar, Director, Indian Institute of Technology, Kanpur	Examination System
8.	All India Secondary Teachers' Federation (Regd)	Demands of secondary school teachers.
9.	Dr. G. Chaurasia, Principal, Regional College of Education, Mysore.	Teacher training and welfare.
10.	Dr. P.K.Kelkar, Director, Indian Institute of Technology, Kanpur	Some thoughts on organizing technical education in a developing country.
11.	Shri S. Rajaraman, Director of Technical Education, Trivandrum	Some aspects of Technical Education in India
12.	Dr. P.K.Kelkar, Director, Indian Institute of Technology, Kanpur	Some general problems relating to the reorganization of education in India.
13.	Shri V. Jagannadham, Indian Institute of Public Administration	Some suggestions to the Commission.
14.	Shri B.R. Shenoy, Director, University School of Social Sciences, Gujarat University, Ahmedabad.	University education.

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15. Shri M.R. Desai, Principal,  
Gopal Krishna Gokhale  
College, Kolhapur. Tape recording of lectures  
of College professors.
16. Dr. Robert Heilig, Jaipur. Some aspects of Medical  
Education.
17. Col. A.N.S. Murthi,  
Bangalore Making all schools Public  
School minded.
18. Dr. D.V. Gandappa, Gokhale Institute of Public Affairs,  
Bangalore. A variety of subjects such  
as the three language Formula,  
Research in Education, Science  
Research in India, etc.

J.P. Naik  
Member-Secretary

To, P.S. to Chairman  
All Members of the Education Commission  
All Officers of the Commission  
for information

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FOURTH MEETING

SECOND SUPPLEMENTARY AGENDA

Item No. 22

PLANNING COMMISSION  
(EDUCATION DIVISION)

A copy of the Inaugural address of Prof. V.K.R.V.Rao Member, Planning Commission to the Second Personal Contact Programme organized by the Directorate of Correspondence Courses of the University of Delhi is enclosed for information.

Sd/

(S.N.Saraf)  
Director (Education)  
Tele. No. 30281/279

Deputy Chairman

Advisers

Members

Chiefs

Minister of Planning

Directors

Secretary

Information Officer

Joint Secretaries

Editor, 'Yojana'

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Planning Commission No. 1/8/64-Edn, dated 11.11.1964

Copy to

1. P.S. to Minister for Education.
2. Education Secretary.
3. Ministry of Education (Plan Coordination Unit)-  
30 copies (For circulation to Joint Secretaries,  
Joint Educational Advisers, Heads of the  
Divisions and Deputy Educational Advisers).
4. National Council for Education Research and  
Training (Dr. V.Moray) Indraprasth Estate -  
10 copies.
5. Editor, "Education Quarterly", Theatre  
Communication Building, Connaught Circus,  
New Delhi.
6. Dr. B.D.Laroya, Secretary, Inter-University  
Board of India, Rouse Avenue-1, New Delhi.

Prof. Ram Behari and friends.

1. I am very grateful to my old friend and colleague Prof. Ram Behari for the very generous and warm sentiments with which he has welcomed me to this meeting. I would like to congratulate him and his colleagues on the excellent work they have done during the last two years in organising correspondence courses.

2. I am particularly getting interested in this subject because we in this country do not know much about correspondence courses. You know this is a conservative country. The very idea that degrees or even diplomas could be conferred without full time and collegiate instruction was considered in respectable academic circles to be beyond the pale of acceptable academic practice. This is why it took us so long in India even to go in for a pilot project in correspondence courses, when instruction by correspondence has had a history of more than 50 years in the world and included many of the advanced countries within its range. The method of supervised correspondence study is now widely used in several countries of the world such as the U.K., the U.S.A., the U.S.S.R., Scandinavia, Netherlands, West Germany, Newzealand, Ethopia, South Africa, Indonesia, Japan, Malaysia and several countries in the Commonwealth. In the U.S.A. alone there are today 56 universities or institutions which are imparting education through correspondence to several million students every year. More persons enroll in correspondence courses every year than those who join the first year of all colleges and universities combined. Similarly, in the U.K., 98% of all chartered accountants prepare for their examination by correspondence. The Soviet Union which has achieved a remarkable break-through in education, as in other fields, has used this method for training a very large number of engineers and scientists and teachers for her vast educational expansion programmes. Thus something like 40% of the 22 lakhs of students in the Soviet Union undertaking higher education are getting their instruction through correspondence courses. Even in the United Kingdom there are a large number of students undergoing non-formal education, something like 138,000 students, in science, in technology, in teacher training as well as in arts and social sciences. Other countries like Japan, Australia, Indonesia and Malaysia have also gone in for correspondence courses on a large scale.

3. We in India have to see that the maximum possible effort is undertaken for the expansion and for the improvement of educational facilities in the country but this has to be done within the broad frame-work of our limited resources. We are, therefore, interested in this whole question of correspondence and of part-time courses. I am, therefore, glad that the Planning Commission put forward before the country the idea of correspondence courses in the Third Plan. I am also very glad that the University of Delhi and its then Vice-Chancellor, Prof. N.K.Sidhanta accepted the invitation of the Government of India to start correspondence courses for the B.A. degree on a pilot basis and on the lines of the recommendations made by the Committee over which Dr. Kothari presided.

4. It is not necessary for me to point out that we have no dearth of students for whom educational facilities have to be provided. Besides population explosion, people are



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talking of the educational explosion in India by which they mean that there is a terrific increase in the demand for education in the country. If you take the country as a whole in 1950-51, we had 4 lakhs of students studying in various courses at the post-matriculation stage, but in 1961-62, the number increased to 11.6 lakhs (about 200% increase) - a rate of growth much higher than the rate of growth of national income during that period which was only about 45 per cent. By the end of the Third Plan period we may reach something 16-17 lakhs of students compared to about 4 lakhs in 1950-51. In other words, in a period of about 15 years, our college going population would have increased by something like 300 per cent, and the expectations are that every year there will be at least a 10% rate of growth in the enrolment of students in colleges. If this increase continues, by 1970-71, we may have about 25 lakhs of students in all courses in this country. Of course some people would say that it is 'wonderful'. But when this is said we forget a number of things. First of all, the colleges, as you know, with exceptions here and there, are very overcrowded. The staff-pupil ratio is steadily going down, and the quality of those who teach is certainly not showing any improvement. Normally, 50 per cent of the students fail. Of the remaining 50 per cent who pass, about 70 per cent get a third class. During the period of the Fourth Plan, 8 lakhs of additional students will ask for enrolment and these would have to be provided accommodation. If Rs. 2000 is taken as the capital cost per student, it would amount to about Rs. 160 crores. Obviously, it is not going to be possible for this country to find the money for buildings, improvement of staff-pupil ratio and the provision of proper equipment, libraries, laboratories and so on for this increasing number of students quite apart from the problem of making up the backlog in respect of these items. If we still persist in going on with additional enrolment at this vast scale, the result is that quality gets diluted. The education we offer, therefore, becomes an adulterated product. Even milk cannot afford more than a certain admixture of water without losing its basic quality. The quality of education cannot stand more than a certain measure of deterioration in standards without losing its basic ingredients. At the same time, we just cannot face the task of finding the enormous physical and financial resources that are needed for the construction and other capital costs of giving full time and formal education to this increasing flow of numbers seeking enrolment in our colleges and institutions of higher learning. Nor can we afford any further dilution in standards or deterioration in quality in our higher education.

5. On the other hand we cannot deny education to people who want it. We are a democratic country. We call ourselves a nation which believes in a socialist society. We cannot but satisfy this great hunger for education. At the same time, we cannot satisfy hunger by giving water instead of milk. I think that the way out of this dilemma is through non-formal education. Correspondence courses and all other non-formal educational techniques, which have been used in other countries, will have to be thought of in this country in order to meet this rising demand for higher education. We must give, therefore, a more important place to non-formal education in our educational planning than we have done so far. This has been done on a big scale

even in countries with larger per capita resources like the Soviet Union, the United States, the United Kingdom, Sweden, Japan, etc. Therefore, in India we have to be less conservative and become more practical. If we can have colleges for all the students with all the needed facilities of equipment, libraries and staff, then I would not really bother to ask for correspondence courses and informal education. But even in affluent countries, with all the immensely larger resources they have, it has been found difficult to provide full-time education because many students want to learn while they learn.

/ goes to a full time college cannot earn while a student who

6. The cost of education, through correspondence courses, we are told, is less than half the cost of regular education. Actually, this is an understatement of the position because the student who takes correspondence course or a part-time course can earn and learn at the same time. In the last few years a great deal of literature has been published on the economics of education. While teachers' salaries and other recurring expenditure is taken into account when working out the cost of education, the earnings that are foregone by the students who go in for formal education should also be reckoned. That is why in the most advanced countries even when they could afford to have colleges for every student, they have part-time and correspondence courses because the students want to start earning at the age of 16 or 17 and cannot therefore afford to join a regular college. We in this country have the additional argument of not being able to afford the cost of formal education if we want to satisfy the real and growing demand for higher education by our young people. We should, therefore, look upon this whole subject of informal education with much more sympathy and understanding than we have done so far. I will earnestly appeal to the educationists, my many friends in the universities, that they make a special study of non-formal education and educate our public opinion about what has been done in the Soviet Union, the U.K. and the U.S.A. where thousands and thousands of even engineers are being trained in this manner, engineers, not just students of economics, or of history, or of literature. As a matter of fact, I wish some of our enterprising journalists will go round the world and write stories about the correspondence courses and other institutions and techniques in the field of informal education they see even in the advanced countries, so that public opinion in India could get educated and people could get to know about it. I think it is very very important that our country should get educated about the existence, the effectiveness and the particular relevance of non-formal education in the context of the Indian economic situation on the one hand and the enormous hunger for higher education, on the other.

7. Dr. Kothari's report on Correspondence Courses has stated that it would be advisable to introduce the subject on science as early as possible in the scheme. Dr. Kothari, speaking in the Personal Contact Programme last year, made it clear that, as Chairman of the U.G.C., he himself hoped that very soon science also will be added to the course of instruction. Now two years have passed since this correspondence course started and we should not wait till we assess the results of the pilot project. I do not think the results of the correspondence course are going to be worse than the regular courses. As a matter of fact I do not really see why, when we have B.A. courses in history,

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economics, mathematics, etc. in the correspondence courses, we should not start B.A. Course in Education, as well, because the greatest need today is of teachers' training. The most important reason of deterioration in the quality of our education is that there is such a large proportion of untrained teachers in primary and secondary schools, their number running into 4 to 5 lakhs. In the Soviet Union 70% of the enrolment in correspondence courses is for teachers' training. This is also true of Japan, as well as of Indonesia and Malaysia, where the teachers' training programme in the correspondence courses is being used to clear the backlog of untrained teachers. Japan has used correspondence instruction for the training of several thousands of teachers who were badly needed after World War.

8. I am glad to know that a Working Group has now been appointed by the Ministry of Education to work out the details of a correspondence course in teacher training. If we want to produce a large number of teachers and scientists during the IV Plan period - and we must - we should be in a position to expand facilities for non-formal education both in teacher training and in science.

I would also like to suggest that correspondence courses should be extended to more universities at least one or two in each of the 5 regions in which the Census has classified our territory. It would also be possible to arrange contact programme more intensively if the courses are run in different regions. Moreover, it is essential that we must solve the problem of books for the correspondence course students. Spending Rs. 75,000 and keeping the books in the library of the directorate does not solve the problem of correspondence course students who come from far-off places. It only solves the problems of those who reside in Delhi. We should have a massive programme to send the books to the correspondence course students wherever they are. I would, therefore, suggest that we start with a network of libraries of university status all over the country, if not in every district at least one in each of a group of 5 to 6 districts. These libraries can then be used not only by the students who are near about, but also by the students who are not able to come to the libraries themselves by a suitable method of lending by post and by mobile book vans. It is worth investigation to find out what would be the cost of libraries which could thus serve the purpose of correspondence courses. I am not thinking in terms of arts and commerce only. I am also thinking in terms of science, technology and engineering. The sooner we do this the easier and quicker it would be to extend correspondence courses and also make them more effective.

9. I would also suggest that in order to provide a certain academic attractiveness to the correspondence courses, we may award scholarships for post-graduate formal education to those students who do exceptionally well in undergraduate correspondence courses. It is not enough to exempt them from paying fees; it is also important to have a special scholarship programme. We have to prove to India, which is a conservative country, that correspondence course students can do as well as full-time students. The best proof of this would be when the correspondence course students sit in the M.A. or M.Sc. Classes side by side with the students educated through regular institutions and then find how the two set of students fare in their examination and subsequently also in their careers.

10. Television and radio is being most effectively used in non-formal education if they are properly organised. We have to think about these programmes also and use them as soon as we are technically and financially in a position to do so.

11. One word more. Before I make up my mind as a planner to go out in a big way to advocate the place of non-formal education in our educational planning, I would like to know something about the difficulties and problems experienced by those who have actually undergone through the correspondence courses. I shall be very glad, therefore, to receive in the Planning Commission two batches of 30 students each, drawn on a random sample basis from those who are attending the Personal Contact Programme and talk with them about their difficulties and problems. It will help me to understand the practical problems involved and then really stretch my neck out and take up a bold position in regard to strengthening the place of non-formal education in Indian educational planning.

12. My young friends, I have come to the conclusion of my address. I would have liked to come to the university campus and spend some time among you all. But unfortunately, it is not possible for me to do so. But I shall certainly give time to meeting some of you in order to learn from you about the working of the correspondence course and about your difficulties.

13. Ladies and gentlemen, I am extremely happy to be here this evening. Looking around you gives me a great feeling of encouragement. I am glad to have got a chance of meeting you and expressing my views. It gives me pleasure especially because while you are not formal students, there is nothing to distinguish you from the students who go in for formal education. If anything, you strike me as a keener group more intent on getting the best out of higher education. Believe me, when I have met you, talked to you and looked around, I feel more hopeful about the future of the country. I have great pleasure in declaring this programme inaugurated.

Post-script.

As indicated in my talk, I took the opportunity of meeting two batches ( of 30 students each) of the correspondence course students in the Planning Commission on 16th May 1964 and discussed with them various aspects of the problem connected with correspondence education. This has strengthened my conviction about the usefulness of correspondence courses, as also my opinion about the need for making library facilities available to their students on a dispersed basis. The one additional thing I learnt from this meeting was the need for strengthening the personal contact programme. Personal contact has to be secured at the level of local educational institutions in the neighbourhood and not centralised at the headquarter of the university which runs the correspondence courses. This need for extension of the personal contact programme should be taken into account when planning the future of Correspondence Courses in India.

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Item No. 24

EDUCATION COMMISSION  
GOVERNMENT OF INDIA

Subject: - UNIVERSITY HOLIDAYS - A PLEA FOR CURTAILMENT

(A Note from Dr. S.P. Gupta, Medical  
College, Lucknow).

The number of students passing in any examination and the standard of education appear to be going down. It is mainly said to be due to lack of proper proportion between teachers and students. When our income is not sufficient to increase the number of teachers in proportion to the increase in students, we have to find out other means to compensate for this deficiency and among others there is one which can be easily done and that is by increasing the period of study during an academic year by curtailing the Vacations. In this article it is proposed to discuss the possibilities of curtailment of present University Holidays.

At present out of 12 months in a year there is no teaching for about 6 to 7 months. The approximate details of these holidays are as follows:-

Summer holidays (90 days in some Medical Colleges)	....	30 days.
Sundays (excluding those with other holidays).	....	35 days.
Deshara and X'mas Holidays.	....	30 days.
Religious holidays.	....	20 days.
Examination period.	....	30 days.
Other holidays like sports, visits, death etc.	....	15 days.
	Total:	<u>190 days.</u>

This shows that the actual period of study is about only five to six months. One can clearly see that if we increase the period of study the efficiency is expected to increase proportionately. A teacher is allowed 1 month's privilege leave and 15 days casual leave. If he chooses to

to take this leave in the working period, a teacher works for the Institution for  $3\frac{1}{2}$  to  $4\frac{1}{2}$  months only in one year. This state of affairs can be ended only by a radical change in our system of holidays. The following suggestions can be useful in this direction.

1. There should be no summer vacations. Summer vacations are given in Western countries because that is the best time to enjoy. Britishers wanted these holidays so that they could go to Europe or to hills. All that has no meaning in our country. Hill going population is negligible and they can go to hills in their privilege leave. The time of work in May and June can be from 6 A.M. to 12 noon.
2. If we want people to enjoy holidays suitable periods could be the second half of October and March and 15 days holidays should be available in each of these months. As this period coincides with the harvesting season it may give some helping hands to rural areas, especially if schools also adopt this scheme.
3. The examination period will have to be in February-March and the admission from April every year. The present period of examination in summer is not convenient and it will be advantageous to shift it to February-March. It is obvious that the admission time will have to be the same throughout the republic.
4. Sunday will be observed as a holiday as usual.
5. Holidays for all religious Festivals should be one day only.
6. Examination period should not take more than 15 days and studies for non-examinees can continue in this period.

In the suggested scheme the account of holidays will be as follows:

Sundays	.....	45 days.
October Holidays	....	15 days.
March Holidays	....	15 days.
Religious holidays.	....	20 days.
Examination period	....	15 days.

Total: 110 days or about  $3\frac{1}{2}$  months.

And thus 255 days (about  $8\frac{1}{2}$  months) will be available for studies. The doubling of the period of study could very well be utilized in reducing the 4 or 5 years course of technical studies especially when there is a great demand for technical personnel. For example the medical course of five years can be safely reduced to four years.

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If our country wants to make the best use of our limited resources and avoid such colossal National waste of time and energy we will have to adopt the suggestion or some modified scheme of curtailment of our holidays.

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Item No.15

EDUCATION COMMISSION  
GOVERNMENT OF INDIA

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Placed below is a Report of a Committee set up by the National Institute of Sciences of India, New Delhi, to suggest steps which should be taken to give effect to the recommendations of the Scientific Advisory Committee to the Cabinet for accelerating the tempo of scientific research and development in the country. It is being circulated to the Members for information.

J.P. Naik  
Member-Secretary  
18.11.1964

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1. Introduction

1.1 In reply to a letter from the Government of India forwarding recommendations of the Scientific Advisory Committee to the Cabinet, regarding the question of increasing the tempo of scientific research and technical development in the country, the National Institute of Sciences of India informed the Government that among others, the NIS has decided to set up a Standing Committee to advise on the better utilization of country's environmental and natural resources with a view to accelerating the tempo of scientific research in the country. This committee met four times and carefully considered the existing atmosphere of scientific research in the country and explored the situation in all its aspects with a view to achieving the above subject. A brief resume of their findings is given below.

2. Science & Technical Development - a necessity for advancement of national welfare.

2.1. On account of various factors of history, during the past 300 years, we have not kept pace with the progress of Science and Technology in the West. Therefore, there



is need for accelerated effort in scientific & technological research if the country is to progress industrially and economically, and to keep pace with the scientific and technical development in other countries. India owes its present scientific progress to the foresight of our leaders in Government who, since independence, have placed scientific development in India on a high priority. The Scientific Policy Resolution introduced in Parliament in 1958 is an evidence of this concern on the part of Government for scientific advancement.

### 3. Objectives Research

3.1. There are two important though not exclusive objectives of research. While the first lays emphasis on "Seeking the truth", practical utility being only secondary, the second emphasises that research undertaken should be planned and judged strictly by its practical value. Broadly speaking, present day research can be divided in two groups -

(i) Fundamental and Basic research and (ii) Applied and Technological Research, which includes Engineering development, evaluation, production and distribution etc. Both naturally have to be actively supported - Basic Research is an investment to explore the scientific and engineering frontiers and opens new potentialities for technology. Applied Research is aimed to investigate the possibility of utilizing the findings of basic research for solving of problems of military security, health, welfare etc.

### 4. Centres of Research and their Location:

4.1. The main centres of research at present in the country are confined to Universities, National Laboratories, laboratories attached to Government organisations like Defence Science Organization, Atomic Energy Commission, India Meteorological Department, All India Radio, Indian Agricultural Research Institute, etc., and non-governmental institutions including those supported by Industry. Although

considerable money is being spent on research in these institutions, the progress made is not commensurate, mainly because there is no coordination between organizations, resulting in lack of planned and well-thought-out research programmes. Further, overlapping in research objectives and development plans has led to waste of energy and manpower due to the handling of the same problems at more than one research centre.

4.2. The experience of almost every country has shown that teaching and research flourish best in coordination and they suffer by isolation. The best of either is achieved in an environment where both are cultivated. Universities with the availability of post-graduate students provide an environment for research which cannot be found in isolation from them. Also, in certain fields of technology, the facilities and equipment required for teaching and research are so elaborate and expensive that they cannot be duplicated. It is, therefore, desirable that technological research centres are closely associated with the Universities.

4.3. Further, the establishment of various laboratories and research institutions in India in isolation from the Universities has, in most cases, weakened the universities to a great extent.

4.4. Also, in recent years, great emphasis has been laid on increasing the number of Engineers and Technologists. Not only has there been a large increase in the number of National Laboratories and Engineering & Technological Institutes, but further special incentives have been offered by way of markedly high emoluments. While the head of a National Laboratory, or an Engineering & Technological Institute draws a salary between Rs 2000/- to Rs 3000/- p.m., the head of a department in pure

science in a University is paid only half of that, - Rs 1,000 to Rs 150 p.m. This has resulted in a tremendous draw of intelligent men and women into Engineering and Technological professions, and only the leftovers have joined studies and research in basic sciences. In Engineering and Technological education, expansion has been in routine training only and research has not made an appreciable headway. As a consequence, there has been a double loss to the country. The better type of students has not been available for fundamental research in the sciences and is doing largely routine work though he is paid high, and basic research has to be handled by less capable workers and does not make the expected progress. This great imbalance in emphasis requires rectification as early as possible and the marked difference in the emoluments between the staff employed in Universities on the one hand and other technological Institutes like National Laboratories, Engineering Institutes, etc. on the other has to be removed so that really capable students could opt for whatever subject they have aptitude for.

4.5. It is, therefore, strongly recommended that:

(i) Universities should be the primary places for fundamental research, and other laboratories and Institutions should be centres for translating the new ideas derived from fundamental research into new machinery, new techniques and new processes for the welfare of society.

(ii) The National Laboratories and other research institutions should be closely associated with the Universities near them.

(iii) Any new laboratory or institution to be set up in future should be located near some university.

(iv) In order to accelerate the pace of scientific achievement and to avoid duplication of efforts in solving the same problems in the several Institutes simultaneously, the reorganisation of the whole set-up should be undertaken and suitable machinery introduced for coordinating the activities of the various universities and institutions.

(v) In order that intelligent and really capable students are not lured away by high emoluments and could opt for whatever subject they have aptitude for, the imbalance in the salary structure of staff employed in universities and other research institutes (National Laboratories, Government Institutions, etc) should be removed.

(vi) The practice of getting research done in the universities through schemes should be properly developed as this is the most economical method of getting research done.

#### 5. Funds for Research.

5.1. Present day Scientific Research requires enormous funds. The progress of research in India has not been as rapid as in other countries. This is due not only to the shortage of scientifically trained personnel but also to the delay in providing adequate funds required for this purpose. The delay in the release of funds has been chiefly caused by two groups of executives in the Government Administration, viz. (a) Those who regard expense on research unnecessary (b) those who believe that anything in Scientific Research can be achieved provided money is put into it. This is because the policy makers in the Government are not generally familiar with matters of scientific research. This state of affairs has led to a feeling that the presence of such persons in the Government is a serious handicap. For rapid advancement of science and technology it is quite essential that competent scientists should be appointed for policy making decisions in Government.

5.2. The Government of India in their declaration of Scientific Policy have assured that creative talent of men and women will be encouraged and given full scope

for scientific activity, and steps will be taken to foster, promote and sustain, by all appropriate means, the activation of Science and scientific research in all its aspects - pure, applied and educational. In order that these aspects are properly coordinated it is essential that we must have in the Government public servants, who are able to sift good from bad scientific advice, who should be able to make their superiors in the Executive Branch and in Parliament understand what Science is really about. They should also be able to explain the Government's view point and Government's special problems to the scientists, so that scientists can provide more realistic advice to the Government. In other words, they must function as communication links, between professional scientists and professional politicians. They could help in cutting the delay in the realisation of funds for research, and reduce red tape. This is no mean task. But so long as this cannot be achieved, the scientists cannot reasonably be expected to yield to the administrator.

5.3.1. According to the information presented recently by the C.S.I.R., the country spent 0.32 percent of the National Income in 1961-62 on research as against 1.7% by Sweden, 2.7% by U.K., 2.9% by USA and 3% by USSR. This proportion, it will be appreciated, is too small to accelerate any major development in basic and technical research in the country. The minimum which should be allotted for research is at least 1% of the National Income.

5.3.2 Moreover, in the past, the distribution of funds in different fields of research has also not been a balanced one as will be apparent from the fact that out of the total investment by the Central Government the major portion is shared by the Atomic Energy Department, the C.S.I.R. and Defence Science Organisation, leaving only a very small amount for distribution to a large number of other organizations carrying on research and to the universities. The

universities are the worst sufferers in this respect. It is essential, therefore, to see that this imbalance in the distribution of funds is avoided and that the grants are not given only to those who have it, but also to those who need it. Only those who have worked in the "have not" institutions will appreciate the stupendous task involved in bringing about even minor improvements. The policy should be to place the money where it will do the most good.

5.4. In order to obviate the above, the following recommendations are made:-

- (i) Public servants in Government who are to take effective action in the matter of scientific policy, should be persons who should be in a position to act as links between scientists and politicians.
- (ii) There should be a greater liaison between the scientist and the Government Executive, - a better understanding regarding the distribution of the funds for science and other purpose keeping in view the urgent needs of the country.
- (iii) Extreme care should be taken in distribution of funds, so that the persons, under whose supervision the schemes and projects are to be carried out are really persons who can be trusted to deliver the goods; for whom science is a way of life to be practised for its own sake and for the public good and not, like many other activities, a road for money and power. Once this has been done, the person should be trusted and complete freedom, without interference, should be given to him in spending the funds and in organisation and conduct of research.
- (iv) At least 1% of the National Income should be allotted for research and technical development of the country.
- (v) At present, a huge proportion of funds for research is spent on applied research and basic research is more or less neglected. The distribution of funds should be

such that adequate provision is made for basic research in universities.

5.6 Award of Research Fellowships:

5.6.1. At present research fellowships are being awarded by agencies like the University Grants Commission, National Institute of Sciences of India, Council of Scientific and Industrial Research, Central and State Governments, etc. This has led to confusion and generally a Research Scholar is on the look-out for a Fellowship of higher value than the one he holds at the moment. To avoid this, it would be worthwhile to have one Central Agency, which should control and award all Research Fellowships within the country.

5.6.2. The following may serve as a suggestion:-

(i) Initially a number of brilliant students after they have obtained M.Sc. degree may be given handsome Research Fellowships comparable to this salary they would get on their appointment as University Lecturers. There should be an assurance that should their work prove satisfactory they will be absorbed in permanent assignments. This will serve to attract them to take up Research in preference to a teaching job.

(ii) After some reasonable period, say every three years, work of these Research Fellows should be appraised and those who show outstanding capacity for research may be awarded emoluments comparable to that of a University Reader, and later to that of a University Professor, should they prove outstanding in ability and show complete dedication to research.

5.6.3. Research Fellows should be expected to keep in touch with teaching, since the aim of a university, unlike that of a Research Institute, is not only creation but also dissemination of knowledge.

6. Universities.

6.1. Present set up of universities and suggested changes to achieve tempo of research.

6.1.1. There are at present about 50 universities in India. Although most of these provide teaching in all science subjects at the post-graduate level, due to inadequate means and meagre grants for meeting the ever-expanding requirements of teaching and research, the education imparted generally suffers from the following defects:-

- (i) The laboratories are usually illequipped and ill-staffed.
- (ii) The teachers are unable to keep abreast with modern developments in their subjects and consequently the knowledge they impart to students naturally is shallow, and they are unable to create interest and enthusiasm among them.

6.1.2. With the present state of financial resources in our country, one cannot foresee a prospect in the near future of generous provision of funds to every one of these universities to enable it to function as a self-sufficient independent institution both in respect of equipment and of staff to provide post-graduate in all subjects. The Committee strongly recommends the following alternative to meet the above requirements:-

- (i) The universities may be grouped on zonal basis, say in 5 zones (Northern, Eastern, Southern, Western & Central).
- (ii) Every one of the universities in a zone need not be required to impart post-graduate teaching in all subjects but only in some special subjects. The subjects in which they specialise should be determined by the criteria given in para (iii).



Such a pooling of resources of all universities in a zone would enable each university to have sufficient equipment and staff to provide up-to-date training in a particular subject.

- (iii) A University located near a well-equipped National Laboratory or Research Institute should specialise in the same field of research as that of the Laboratory or the Institute since it will then be possible for the university to get the benefit of not only the well-equipped laboratory but also the scientific staff of the latter.

## 6.2. Administration-

6.21. Though scientific personnel and equipment are necessary for carrying on scientific research, a congenial atmosphere is also necessary for this purpose. The administration can provide it and the person at the helm can create it, by appreciating and understanding the Scientist and his problems taking proper steps to solve them.

6.2.2. As Universities are the main source of training young men and women for advanced study and research in different branches of science, it is of the foremost importance that the universities should have the right type of Vice-Chancellors and highly qualified staff.

### 6.2.2.1. Appointment of Vice-Chancellor.

For Vice-Chancellorship of universities, only such persons should be selected that have established reputation for scholarship, breadth of vision, administrative ability, missionary spirit, freedom from the so called university politics and a deep conviction in the importance of scientific research and technical development of the country.

### 6.2.2.2. Selection of teaching staff

- (i) The Professor, who is to be responsible for the organization of teaching and research in his department, should be selected very carefully on an all-India basis. He should be an eminent scholar in his subject, a

distinguished researcher of high order and one who can inspire his colleagues and pupils on scientific research.

(ii) The selection of other teachers in the department should also be made on an all-India basis. The teachers selected should be such as have done research themselves and are capable of guiding and inspiring suitable young students to take to the profession of teaching and research.

(iii) It should be enforced as a Statutory Rule that no M.A. or M.Sc., however, bright his record, should be permitted to teach degree and post-graduate classes until he has devoted a period of at least two years after taking his Master's Degree, in doing advanced study and research.

6.3. Training of the would-be Teachers:

6.3.1. While it is customary for a young man who enters any other type of service or profession to undergo a rigorous training to enable him to do his job efficiently, it is rather strange that in India, the university is the only place where a young man, immediately after passing the Master's Degree Examination, is employed at once to teach even the post-graduate classes. The result is that these fresh men with their ill-digested knowledge of the subject prove inefficient in their work.

6.3.2. To overcome this difficulty, it is necessary that institutes of the type of Ecole Normale Supérieure of Paris be established in the country. These Institutes should be staffed by scientists of the highest caliber in the country and should also engage some distinguished scientists from abroad on suitable terms. Fresh M.Sc's from the universities wishing to take up a career of teaching and research should be admitted to these Institutes for being trained in advanced courses of studies and research, for a period of at least two years,

to become well-equipped for teaching university classes.

6.4. Difficulties of Recruitment of Research Scholars:

6.4.1. As mentioned earlier, teaching and research flourish best in coordination and they suffer by isolation. For a congenial atmosphere it is essential to avoid the existence of two categories of staff in the university - one doing teaching work and the other engaged only in Research. This widens the gap between the research personnel and the teachers. The assignment of some teaching work to the Research Fellow and the insistence of carrying on research by the teacher would bridge this gap.

6.4.2. The present day reluctance among the brighter students to take to a research career is due to several factors, viz., :-

(i) Status: In most Indian universities, a Research scholar does not enjoy a proper status. Even a fresh M.Sc., who is appointed as a Lecturer in the university, enjoys a higher status in the eyes of the authorities than even the seniormost Research scholar in the department.

(ii) Security of getting a job:- Even after spending several years in research, the researcher does not feel secure about getting a suitable job in keeping with his qualifications.

(iii) Loss in Emoluments:- A Research Scholar who joins the teaching profession later, having spent some years in Research, not only suffers a loss of increments but also of seniority in the department, in comparison with one who joins a teaching position soon after passing the M.Sc. Examination. This discourages bright young men from taking to research.

6.4.3. In view of the above difficulties the following solutions are recommended:

(i) While fixing the initial salary of a teacher, the period spent by him <sup>in</sup> research should be given due recognition.

(ii) To ensure that teachers continue their research activities even after their appointment on the staff, an efficiency bar

should be imposed at suitable intervals, say of 5 or 7 years.

(iii) For promotion to higher posts or grades, the claim for promotion of a scientist or a university teacher should be judged not only on the basis of his own publications but also on the calibre and publications of the students trained by him.

(iv) The emoluments of a young man choosing a teaching and research career should be as attractive as those of one in administrative and other occupations.

(v) Research Fellowships/Scholarships should be made as attractive as permanent appointments and teaching positions in Universities made fully competitive with appointments in Research Institutes.

(vi) In order that the work of a research scholar may progress smoothly, he should be provided upto date library facilities which he should be in a position to use with the same facility as a university teacher.

(vii) Necessary and suitable equipment, laboratory facilities and sufficient funds to procure articles for research at short notice, should be provided.

#### 6.5 Steps to check quality deterioration of Teaching and Research in Indian Universities

(i) The great rapidity with which the number of universities is multiplying in India every year, should be reasonably checked. On account of this rapid increase, it is not being possible for the new universities to recruit efficient and qualified staff. There are universities which have been in existence now for several years, but have not yet been able to procure the services of a Professor or even a Reader in several of the departments. This state of affairs is lowering the prestige of the universities in the eyes of the Government and the public.

(ii) The University Grants Commission should make sure that the posts in the universities do not remain unfilled

for an unduly long time.

(iii) A committee should be set up to go round various university centres to discuss in camera the difficulties experienced by the young researchers.

(iv) The present defective system of examinations, which does not stimulate originality in the students, should be dispensed with in favour of a more scientific and better devised system.

(v) At present a mushroom-like growth of unsatisfactory and incorrect text-books and notes is fast taking place in the country. This must be checked.

(vi) It should be suggested to the various state and Central Service Commissions that they should get their present syllabi of the Public Service Examinations modified on modern lines.

(vii) There is an urgent need for curriculum reform in many fields because of the very rapid accumulation of new knowledge. The University Grants Commission has made a beginning in this direction but this effort needs to be greatly extended. The Universities should be encouraged by grants to reexamine and improve the teaching in various subjects. It may be worthwhile to explore the possibility of establishing a Council of Advisers on Science Education consisting of some of the leading scientists in the country as well as some Vice-Chancellors of the Universities. This body could provide a forum for an over-all review of science education at all levels and the research needs of the nation. In the curriculum for the universities, a knowledge of foreign languages like French, German and Russian should be encouraged. One practical way to do this will be by setting a few questions in the question papers in languages other than English, as is done in some of the Western universities.

(viii) Science teaching in secondary schools should be improved.

(ix) Arrangements should be made so that Senior scientists and Heads of Departments may not have to spend too much time in administrative work of the routine type and that teachers in general are not overloaded with routine teaching work.

(x) A very useful step would be ordinarily to discourage brilliant researchers upto a certain age, say 40 years, either by rule or convention, from getting elected to committees and become Committee men.

7. Laboratories and other Research Institutions.

7.1 There are 27 National Laboratories directly under the C.S.I.R. and half a dozen others which are classed as Cooperative Research Associations. Besides these are laboratories attached to Government Institutions, viz., Atomic Energy Commission, Indian Council of Agricultural Research, Indian Council of Medical Research, Defence Science Organisation, etc., and Industries. As information re: these organisations is not readily available, remarks given below pertain mostly to National Laboratories.

7.2. In the past, there has always been a tendency to set up these organisations independent of universities. Further, the set-up and the salary structures in these institutions, though very much more attractive than of the comparable posts in the universities, still vary from institution to institution.

7.3. Each of the National Laboratories has its own elaborate buildings, laboratories, workshops, pilot plants, and a very large number of scientific, technical and administrative staff. The total annual expenditure is of the order of Rs 30,000,000 (Rs 3 crores).

7.4 In spite of the fact that these laboratories are declared as autonomous bodies, the administrative structure is such that they more or less function as Wings of Government and are too large to be effective

units of research.

7.5. Further, as the future prospects of the staff in these laboratories depend not upon the evaluation of their achievements by an independent body of scientists or technicians, but on the progress report and the confidential reports of the immediate superiors, the research workers naturally cannot afford to displease them and this very fear is enough to kill their initiative and original thinking. Some steps are required to be taken to correct this atmosphere if the right climate for research is to be created in these establishments.

#### 7.6 Proper utilisation of Scientific Personnel:

7.6.1. Free and unfettered atmosphere is essential for creative research. Complaints are heard from many quarters that younger scientists in National Laboratories and in other Government agencies do not get full freedom for their work. Their major difficulty centres round the problem of their relation with their senior colleagues. They are seldom allowed to initiate schemes of research and they are often asked to carry out research projects drawn up and favoured by their superior officers. They also do not have freedom to publish results of their work.

7.6.2. Perhaps the most serious dra-back is the lack of opportunity of free discussion of their problems due to the atmosphere of distrust prevailing in the institution. The result of such an atmosphere is that not only do the younger workers not do the work of which they are capable, but also very often they act as irritants preventing good work by other members of the laboratory or institution.

7.6.3 The solution of the above problem seems to be that scientists, both senior and junior, should be given freedom and indeed, should be encouraged to

pursue independent lines of research. There must be provision of funds, including some foreign exchange to the heads of each research unit and also to individual scientists so that necessary equipment and material within the allocation could be purchased without the usual delay caused by financial control. In order that the freedom may not be misused, the work of such a scientist should be critically evaluated from time to time and in case he is found wanting the facilities should be withdrawn from him.

8. Emigration of Indian Scientists abroad:

8.1 There has been a craze among bright young research workers and even some of the older persons in India to go abroad for advance studies and research even in subjects for which ample facilities exist in India. A considerable number of these scientists are at present working abroad. Some of them prefer to stay abroad for personal reasons; there are others who are eager to come back but are discouraged from doing so for fear of being unable to adjust themselves to Indian conditions on various grounds:

- (i) Lack of facilities for employment in the country;
- (ii) Lack of facilities and opportunities for continuing the work they started abroad;
- (iii) Payment of lower salaries than those offered in the foreign country;
- (iv) Apathy to start new research projects in the universities and Research Laboratories;
- (v) Distrust in Heads of Departments, both in the universities as well as in the Government institutions; in matters of allotment of funds and recruitment of scientific personnel; and
- (vi) Marriage with foreigners.

8.2 The problem has two aspects:

- (i) Persuading Indian Scientists working abroad to come back to India; and
- (ii) Criterion which should be adopted in regulating selection of students who should be sent abroad for training.



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8.2.1. As regards (i) the only way to effect this is to make the terms and conditions of employment such that the scientists should feel that they form one of the essential components of society and that their position in society is second to none in importance and usefulness. They should be offered terms as attractive as those of comparable ability in administration and other occupations. They must also be provided with adequate facilities and congenial atmosphere for work; encouragement for initiative in their professional activities; evaluation of their work by fellow scientists; freedom of expression of scientific views; opportunities of exchange of experience and scientific discussions with colleagues at a national and international level; and also in a person of a senior status, facilities to offer appointments and encouragement to junior colleagues and pupils.

8.2.2. As regards (ii) the following steps amongst others are recommended:

- (a) As a rule younger people should not be sent abroad for training in research work up to the doctorate standard in subjects for which facilities for research exist in India. Studying for examinations and foreign degrees should be discouraged.
- (b) Even in case of people wishing to go abroad for post-doctorate research, passport should be issued normally not for a period longer than that prescribed for a particular course.
- (c) Sending of students abroad for training should be restricted to satisfy subjects for fields in which they would work on their return to India and not on problems of interest to the country of their training. This is essential to avoid the training being used as cheap labour abroad and to ensure a proper utilisation of the knowledge and experience acquired abroad. While giving effect to this, care should be taken to see that trainees

have received training and education up to the highest level in India.

(d) The main criterion for permission to go abroad should be <sup>the</sup> non-availability of the facility for working out a specific problem in the country and the importance of the problem from the point of view of national interest; but before doing so, efforts should be made to see if it would not be worth-while arranging for the facilities to be provided in the country itself instead of allowing students to go abroad.

(e) Instead of sending our men abroad for training, it would be worth while to make efforts to get some distinguished scholars and teachers from other countries to come and work in India for fairly long terms, say five years or more. This will require provision of both adequate research facilities for the visiting scientists as well as highly attractive salaries. Payment of high salaries to really competent and distinguished scientists from abroad, however, would be cheaper in the long run than sending Indian students abroad for training.

(f) The emoluments and prospects of a scientist should be based entirely on his research merit, whether acquired in Indian or foreign countries. No preferential treatment should be given to a person simply because he has obtained his degree in a foreign country.

(g) On a diplomatic level, understanding should be reached with the country concerned that the research fellow going there is neither to be allowed to take up an appointment there nor would he be allowed to marry a foreigner. At this end to ensure that the research fellow also abides by the conditions of agreement he should not be allowed to go abroad unless he furnishes a reasonable security.

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9. Collaboration between Universities and other Institutions.

9.1 The question of effective collaboration between the universities, National Laboratories and other research Institutes has attracted a good deal of attention of the Government and other agencies concerned with research. If research is to make headway in the country, it is essential that:

- (i) National Laboratories and other research organizations work in closest cooperation with universities, which have in the past been the main centres of scientific research and will continue to remain so, especially in respect of fundamental research.
- (ii) Conditions should be created to enable universities to take full advantage of special facilities and resources available in National laboratories and other research institutes.
- (iii) Organisation of Seminars, Symposia and Summer Schools by various agencies are coordinated by mutual consultation to avoid duplication.
- (iv) Overlapping in the matter of publication of scientific journals by various societies and organisations may be avoided.

A REVIEW OF THE MAJOR RECOMMENDATIONS OF  
THE SECONDARY EDUCATION COMMISSION AND  
THE RESULTS OF THEIR IMPLEMENTATION

I. INTRODUCTORY

1. Appointment of the Commission:

The Secondary Education Commission was set up by the Government of India in September 1952 to examine the prevailing system of secondary education in the country and suggest measures for its reorganisation and improvement. In the Resolution appointing the Commission, the Government referred to the decisions taken by the Central Advisory Board of Education at its meeting held in January 1948 and again in January 1951 urging upon the Central Government the need of appointing such a Commission. The following were the additional considerations which guided the Government in taking the required action:-

- (1) The necessity of a comprehensive and thorough examination of the problems of secondary education in view of the fact that the secondary stage marked the completion of education for the vast majority of pupils and also because the existing system of education adversely affected the quality of education at all stages.
- (2) The desirability of changing over from the existing system of secondary education which was unilateral and predominantly academic in character to one which would cater to the different interests, aptitudes and abilities of the adolescents.

The terms of reference of the Commission were:

- (1) to enquire into and report on the present position of secondary education in India in all its aspects; and
- (2) to suggest measures for its reorganisation and improvement with particular reference to -
  - (i) the aims, organisation and content of secondary education;

(ii) its relationship to primary, basic and higher education;

(iii) the inter-relation of secondary schools of different types; and

(iv) other allied problems.

## 2. Necessity of critical appraisal;

The Commission's recommendations raised great hopes that a new era of reform would be ushered in at the secondary education stage and that the basic defects which had made this stage the weakest link in the educational chain would be gradually removed. But several difficulties arose in the implementation of the new proposals, particularly of those relating to the reorganisation of the educational pattern; and as the problems increased in number and complexity, people became critical not only of the manner in which the recommendations were implemented but also of some of the recommendations themselves. We shall give in this note a brief review of the major recommendations regarding the new organisational pattern, the secondary school curriculum, the new approach to examination and evaluation and the improvement of the teaching personnel and attempt a critical appraisal of the results of the reforms undertaken in pursuance of the recommendations.

## 3. Positive features:

Let us consider first the positive features of the new developments that took place in the field of secondary education in consequence of the Commission's recommendations. Some of these were quite significant and valuable, as the following account will show:

(a) The appointment of the Commission itself was a recognition of the principle that, though under the Constitution of India secondary education was the concern of the States, the Central Government had a definite

responsibility for making proposals regarding the improvement of standards in this most vital sector of education. The Commission in its Report has stated clearly its own raison d'être in these words:-

"We recognise that Secondary Education is mainly the concern of the States but, in view of its impact on the life of the country as a whole, both in the field of culture and technical efficiency, the Central Government cannot divest itself of the responsibility to improve its standards and to relate it intelligently to the larger problems of national life . . . . . The Central Government is therefore naturally concerned about the type of education to be given to the youth of the country. It must make sure that Secondary Education will prepare young men for the various vocations that are open to them. Moreover, it is directly charged with the responsibility of maintaining proper standards in higher education. This cannot be done, unless careful consideration is given to the level of efficiency attained at the secondary stage."

The States did not challenge this assumption of responsibility by the Central Government in the field of secondary education. In fact, the Commission's Report was welcomed everywhere as a valuable blueprint for the reform of secondary education, and many State Governments took steps for the implementation of the major proposals contained therein. This cooperation of the State Governments may be regarded as a notable contribution to the development of the concept of shared responsibility as between the Centre and the States in the educational field. It clearly showed that, notwithstanding the provisions of the Constitution, vital educational matters which affected national life and progress were a joint concern of both the Centre and the States.

(b) The recommendations created a great deal of interest and enthusiasm all over the country and were the subject of serious discussion in educational circles. While the extension of the duration of the school course and the reform of the curriculum for providing a diversified programme of studies had been suggested by

previous Commissions and Committees, for the first time concrete proposals were now put forth for a new organisational pattern of secondary schools and for diversified courses to be introduced in the upper classes of these schools. Since an international team was appointed to consider the question of the implementation of the Commission's recommendations in respect of curricula and teacher training, the Central Government's earnestness of purpose in the matter was clearly demonstrated. This was partly responsible for the cooperative spirit in which State Governments took up the question of reforms in secondary education.

(c) . . . Though the establishment of higher secondary schools and multi-purpose schools created, as will be shown later, a number of educational and administrative problems, it was the first step taken towards the reorganisation of the traditional secondary educational pattern. The new courses in these institutions, in spite of their defects, were a significant departure from the unilateral and predominantly academic type of education that was till then imparted in our secondary schools.

(d) As a consequence of the recommendations of the Secondary Education Commission about the improvement of teaching personnel and their specific proposals regarding in-service training, a dynamic movement was initiated for the organisation of refresher courses, workshops, seminars and professional conferences for teachers and headmasters in different parts of the country so that they might be introduced to new educational techniques and practices and improve their professional efficiency. This movement gathered momentum with the establishment in October 1955 of the All India Council for Secondary Education under the Ministry of Education, one of the main objects of which

was to promote and develop the in-service training of secondary school teachers.

(e) In pursuance of this programme of in-service training, the All India Council for Secondary Education was called upon to set up a chain of 54 Extension Services Centres in different training colleges in the country. The establishment of these Extension Services Departments brought the colleges closer to the secondary schools in the vicinity, and the schools received valuable guidance and assistance from these institutions in the solution of their many educational problems. The setting-up of these centres is one of the most valuable developments that have taken place in the reform of secondary education in recent years. The Council was subsequently transformed into the Directorate of Extension Programme for Secondary Education (DEPSE), which has further intensified its extension programme to cover a larger number of training colleges so as to meet the needs of a still larger number of schools in every State.

(f) The Secondary Education Commission pleaded for a new approach to examination and evaluation. This new approach was initiated in 1958, when with the expert advice of Dr. B. S. Bloom of the Chicago University, the Government of India proposed a phased programme of examination reform, which was accepted by all the Boards of Secondary Education in India. An Examination Unit of trained Evaluation Officers has been functioning at the Centre for the past six years to implement this programme. This Unit has introduced a very large number of school teachers, training college lecturers and other educators to the new concept of examination and evaluation. It has promoted the development of an extensive pool of test items for the use of examiners, has carried out several valuable studies, and research projects on the problems of examinations, has taken several



effective measures for the improvement of question papers at the external examinations, and has produced a vast quantity of literature on several vital aspects of evaluation which has been distributed among schools all over the country. What is most encouraging is the new climate for examination reform that the Unit has helped to create everywhere by involving Boards of Secondary Education and State Departments of Education in its dynamic programme. We can therefore say without hesitation that a positive trend for the improvement of examinations is noticeable at the secondary school level as a result of the recommendations made by the S.E.C.

4. Let us now take up the major proposals of the Secondary Education Commission, review the manner in which they have been implemented so far, and if such implementation has been unsatisfactory or inadequate, find out the reasons for this unfortunate development. The proposals we shall consider here are embodied in certain important recommendations made in the Commission's Report on (i) New Organisational Pattern of Secondary Education (Chapter IV), (ii) Curriculum in Secondary Schools (Chapter VI), (iii) New Approach to Examination and Evaluation (Chapter IX) and (iv) Improvement of the Teaching Personnel (Chapter XIII). A Report on the other recommendations of the Commission will be submitted at a later stage.

## II. NEW ORGANISATIONAL PATTERN OF EDUCATION

### 5. The Commission's recommendations

The Commission's important recommendations on the New Organisational Pattern of Secondary Education are given below:-

- (1) Under the new organisational structure, education should commence after four or five years' period of Primary or Junior Basic Education and should include--
  - (a) the Middle or Senior Basic or Junior Secondary stage of three years; and

- (b) the Higher Secondary stage of four years.
- (2) During the transitional stage, the existing High Schools and the Higher Secondary Schools should function on the lines laid down.
  - (3) The present Intermediate stage should be replaced by the Higher Secondary stage which should be of four years' duration, one year of the present Intermediate being included in it.
  - (4) As a consequence of the preceding recommendation the First Degree course in the University should be of three years' duration.
  - (5) For those who pass out of the High School there should be provision for a Pre-University Course of one year during which period the scheme of studies should be planned with due regard to the needs of the Degree or the professional course to be taken by the students, and special emphasis should be placed on the quickening of intellectual interests, training in methods of studies at college and the study of English so long as it continues to be the medium of instruction at the University.

5. It will be seen from the above recommendations that while the Commission proposed the addition of one year at the end of the school course, it did not state in clear and unambiguous language what the total duration of the school course would be. This was in marked contrast with the method followed by the University Education Commission which had stated clearly that the standard of admission to the three-year first degree course at the University should correspond to that of the Intermediate Examination to be taken by a student after completing full twelve years of study. From the Report of the Secondary Education Commission, it appears that the total period of study prior to admission to the first degree course could be either eleven or twelve years, depending upon whether the Primary or junior basic stage was of four or five years' duration. One is inclined to think that the recommendation regarding the total period of the school course was deliberately left vague in the Commission's Report, as school education generally covered a period of ten years in the Northern States as against

eleven years in the Southern States, and any definite proposal to extend the course to cover a period of twelve years would have been rejected by the Northern States as impracticable. Whatever the justification for this vagueness or ambiguity, it contributed to the confusion that was later on created over the new organisational pattern.

#### 7. Revised Organisational Pattern

The recommendations of the Secondary Education Commission were considered by the Central Advisory Board of Education, and on the Board's advice, the Government of India decided in 1954 that the organisational pattern of education should be as follows:-

- (a) Eight years of integrated elementary education;
- (b) Three or four years of secondary education with diversification of courses; and
- (c) Three years of university education after the higher secondary school leading to the first degree.

The Central Government advised the State Governments to accept this pattern for implementation. Delhi, however, had for several years a pattern of school education which consisted of eight years of primary and middle school (five plus three), education followed by only three years of higher secondary education. It seems that when the proposals for the reorganisation of secondary education came to be implemented in the different States, the Delhi pattern served as a model. A special feature of the pattern recommended by the Secondary Education Commission was a four-year higher secondary stage; but what was finally taken for implementation was a three-year higher secondary stage.

#### 8. Institution of Pre-University Course:

The Commission had recognised the fact that all the high schools in a State could not be upgraded to become higher secondary schools, and that for several years to

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come high schools and higher secondary schools will exist side by side. It was for this reason that the Commission recommended the institution of a one-year pre-University course as a preparatory course for entrance to the university for those students who would pass out of the high schools. It need hardly be pointed out that the proposal about the pre-university year was intended only for the transitional period and was not to be considered as a permanent feature of the reorganised pattern of school education. The basic idea underlying the reform was that all the secondary schools in the country should be upgraded to the higher secondary pattern within a reasonable period of time.

9. Number of High and Higher Secondary Schools in different States

The latest position regarding the number of High and Higher Secondary Schools in the country is given in the following Table:-

Name of the State	1960-61		1965-36 (Estimated)	
	High/Higher Secondary School	Higher Secondary Schools	High/Higher Secondary Schools	Higher Secondary Schools
Andhra Pradesh	1,192	140	1,632	540
Assam	631	45	728	105
Bihar	1,500	122	1,850	180
Gujarat	834	--	1,302	--
Jammu & Kashmir	262	24	312	149
Kerala	891	--	956	349
Madhya Pradesh	801	701	1,031	1,031
Madras	1,468	--	1,650	200
Maharashtra	2,468	95	3,621	166
Mysore	750	49	960	269
Orissa	400	7	520	20
Punjab	1,341	272	1,691	545
Rajasthan	542	300	742	408
Uttar Pradesh	1,732	778	2,104	936
West Bengal	1,825	473	2,300	1,393
A&N Islands	3	3	3	3
Delhi	299	299	349	349
Himachal Pradesh	86	14	97	42
Manipur	59	--	59	15
N.H.&T. Area	7	--	20	--
Tripura	34	8	39	25
L.M.& A. Islands	1	--	2	--
N.E.F.A.	1	--	5	3
Pondicherry	33	--	39	7
<b>Total:</b>	<b>17,164</b>	<b>3,690</b>	<b>22,012</b>	<b>6,735</b>

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It will be seen from the above Table that the States of Gujarat and Kerala have not accepted the higher secondary pattern at all. Maharashtra also has not accepted this pattern, for the few higher secondary schools shown in the Table are really located in the Vidarbha and Marathwala areas, which formed a part of the old States of Madhya Pradesh and Hyderabad where the pattern had been accepted. Uttar Pradesh describes its intermediate colleges (which provide a two-year intermediate course after a ten-year school course) as higher secondary schools; but as the first degree course in U.P. following the intermediate examination is of two years' duration only, the intermediate college classes cannot be regarded as conforming to the reorganised pattern which was recommended by the Commission. Madras accepted the pattern some time ago and compressed its eleven-year school course into a ten-year course; but it has now gone back to its old system before a single higher secondary school could be established. Andhra Pradesh also accepted the pattern, converted a few schools and like Madras compressed its old eleven-year old course; but it has now decided to have a ten-year high school course plus a two-year pre-University course instead of a eleven-year higher secondary course according to the reorganised pattern. In States like Assam, Bihar, Mysore and Orissa the pattern has been accepted in theory, but the progress of upgrading is very slow. It is only in the States of Madhya Pradesh, Punjab, Rajasthan and West Bengal that a large number of higher secondary schools exist and the progress made in upgrading high schools to the new pattern may be said to be satisfactory. (Madhya Pradesh is said to have converted all its high schools into higher secondary schools.)

10. Reasons for unsatisfactory implementation

The reasons for the unsatisfactory implementation in most States of the proposals regarding the reorganisation of secondary schools are given below:-

(a) There is a variety of school patterns in the country.

As has been indicated above, the primary or junior basic stage covers a period of four years in some States and five years in others. The duration of the high school stage also varies from two to four years. The confusion is further increased by the fact that the age of admission to Class I is 5 plus in some States and 6 plus in the others. It was felt that the mere addition of one year to the school course would not help in evolving a common pattern of school education as envisaged by the Secondary Education Commission.

(b) The pattern of the school course which existed in Delhi seems to have influenced the reorganisation elsewhere. This pattern requires an elementary (or primary plus middle school) course of eight years and a higher secondary course of three years. In those States, where school education generally covers a period of ten years followed by a University course of four years for the first degree, this reorganisation meant in effect either the transfer of one year from the college to the secondary school so that the high school became a higher secondary school, or the separation of one year from the university course to form a pre-university class. In other States where the total period of school and college education required for the first degree is generally 15 years (eleven years in school and four years in college)

the reform implied, paradoxically enough, the reduction of one year in the fifteen-year school and college course. This was because these States were not prepared to extend the duration of the school course from eleven years to twelve. As has been pointed out above, Madras tried to compress its old eleven-year school course into a ten-year course for the purpose of bringing its school system into the reorganised pattern, but when it was about to reach its goal, it went back to its old pattern of eleven years of school education.

- (c) From the very beginning the old Bombay State (now Maharashtra and Gujarat) did not accept the proposed pattern of reorganisation and made no attempt to change its system of secondary education. Uttar Pradesh which has the system of intermediate colleges claims that its intermediate classes are really higher secondary; but as the intermediate course is followed by a two-year university course, Uttar Pradesh may also be regarded as a State which has not accepted the new pattern.
- (d) The financial implications of the upgrading of a large number of schools in every State to the higher secondary pattern were not worked out when the reform was undertaken. Even with Central aid the States that accepted the pattern did not find it possible to convert more than a certain number of schools into higher secondary institutions.
- (e) According to the Commission, the selection of high schools for conversion into higher secondary schools is to be governed by strict and carefully defined conditions. It is stated in the Commission's Report that only those schools would develop into efficient higher secondary institutions which satisfied definite criteria prescribed regarding accommodation,

equipment, qualifications of the staff, salaries and grades and adequate finances, and that such conditions have to be fulfilled scrupulously before the schools are recognised as higher secondary schools. Unfortunately, the establishment of higher secondary schools in certain areas became a matter of prestige for the people concerned, and social and political pressures were sometimes used for getting the necessary recognition for their institutions. The result is that a number of schools have been upgraded which do not satisfy the minimum criteria regarding accommodation, equipment, qualifications of staff, etc., and though the conversion has been effected it has not led to any marked improvement in the quality of education imparted in the institutions.

(f) For the success of this reorganisation, it is essential that teachers with higher qualifications should be made available for the teaching of the upgraded courses, at least in the additional year of the higher secondary stage. It was suggested in the Commission's Report that the minimum qualifications required for teaching in the last two years of the higher secondary school were an M.A. degree or a first class B.A. degree with a degree in teaching. A sufficient number of qualified post-graduates, however, are not available for the new courses, and those M.A.'s. who do join the schools attracted by the higher salaries offered are either of a poor calibre or not quite suited for the teaching profession. Moreover, the introduction of core subjects like crafts and general science in the curriculum of the higher secondary school has created further difficulties regarding staff requirement.



On account of the mediocre quality of the teaching personnel the standards of the higher secondary school have not been adequately raised and the reputation of the new organisational pattern has suffered as a consequence.

- (g) The pre-University course was introduced as a transitional experiment in view of the fact that it was not possible to convert all the high schools into higher secondary schools in the near future. The aim was to upgrade ultimately all the high schools to the higher secondary pattern. But the pre-University course has come to be regarded as an institution which could continue for an indefinite time, particularly with the expansion in secondary education that has taken place during the last few years resulting in the establishment of a large number of new high schools all over the country. The one-year pre-University course has not proved satisfactory as, in effect, it is a course of only seven to eight months. Students take several months out of this short period for adjusting themselves to the new conditions, for adapting themselves to the methods of instruction different from what they have been accustomed to in schools, and (in the case of the majority of students) to a new medium of instruction, which is English. The pre-University year has thus become an ineffective period of study.

### III. CURRICULUM IN SECONDARY SCHOOLS

#### 11. Proposals regarding Multi-purpose Schools:

As a part of the programme for the reorganisation of secondary education the Commission proposed the establishment of multi-purpose <sup>schools</sup> "wherever possible to provide varied courses of interest to students with diverse aims, aptitudes and abilities." The recommendations

regarding the curriculum of these schools are given below:

(1) At the Middle School stage, the curriculum should include (i) Languages; (ii) Social Studies; (iii) General Science; (iv) Mathematics; (v) Arts and Music; (vi) Craft; and (vii) Physical Education.

(2) At the High School or Higher Secondary stage, diversified courses of instruction should be provided for the pupils.

(3) A certain number of core subjects should be common to all students whatever the diversified courses of study that they may take; these should consist of (i) Languages, (ii) General Science, (iii) Social Studies, and (iv) a Craft.

(4) Diversified courses of study should include the following seven groups: (i) Humanities, (ii) Technical Subjects, (iii) Sciences, (iv) Commercial subjects, (v) Agricultural subjects, (vi) Fine Arts, and (vii) Home Sciences; as and when necessary additional diversified courses may be added.

(5) The diversified curriculum should begin in the second year of the High School or Higher Secondary School stage.

12. A multi-purpose schools according to the Commission, has the following advantages:-

"(1) It removes all invidious distinction between students preparing for different courses of studies, breaking down the sense of inferiority that is associated with vocational subjects and makes it possible to plan the educational system on a truly democratic studies.

(2) It provides a greater variety of educational media and thereby facilitates proper educational guidance in the choice of studies.

(3) It helps to solve the problem of the wrongly classified pupil, because transfer within the same school is easier to arrange than transfer from one school to another."

13. How the proposals were implemented:

The proposals regarding the multi-purpose schools created in the process of implementation even more serious problems than those regarding the higher secondary schools, with the result that at the end of the Second Five Year Plan only 2115 schools out of a total number of over 17,000 high/higher secondary school could be converted into multi-purpose institutions. This number may not seem small, particularly in view of the Commission's observation that, while they advocated the starting of a certain number of

multipurpose schools, it was not their intention to suggest that all schools should be of the same type. However, since even in terms of the Government resolution appointing the Commission one of the major defects of the prevailing system of secondary education was its unilinear and predominantly academic character, and emphasis was laid on the urgent need for the reorganisation of secondary education with diversified courses, the reform cannot be deemed to be effective unless a sufficiently large number of schools of the new type are established all over the country. The serious difficulties that have been experienced in the working of the multipurpose schools has led to the suspension of the programme of conversion of high schools into multipurpose schools during the Third Five Year Plan. An attempt is now being made to strengthen and improve the existing institutions of this type by the establishment of the four Regional Colleges of Training and the demonstration multipurpose schools attached to them.

14. Causes of unsatisfactory implementation:

These are the causes of the unsatisfactory implementation of the original scheme:

(a) There was confusion with regard to the purpose and functions of the multipurpose schools. This is partly due to the fact that, while the Commission agreed that the education imparted in the reorganised schools would be 'terminal education' for the majority of students, they did not explain what exactly this expression meant. As far as the new curriculum in the multipurpose schools was concerned, the Commission made it clear that the diversification of courses and the introduction of practical subjects did not mean that the pupils were to undergo any kind of vocational training. At the same time, it was stated that the programme was to have a definite vocational bias, and that, as most of the students passing out of these schools would not go in for higher studies, they should receive some training in accordance with their aptitudes by way of preparation for vocational work later on.

On account of this ambiguity in the Committee's recommendations, educational administrators have not been able to translate the

objectives of the multipurpose school in terms of functions, organization and syllabi effectively.

(b) The syllabi prepared on the basis of the suggested curriculum for the so-called practical streams - technical, agricultural and commercial - are biased in favour of those who intend to pursue their studies further rather than those who desire to terminate their education at the school stage. The requirements of the core curriculum have come in the way of the extension of time for the practical subjects, and even in the study of these subjects, theory is emphasised at the expense of practice. The result is that students passing out of the multipurpose schools in the practical streams continue to seek admission in the universities for they have not been prepared for employment in skilled or semi-skilled occupations.

(c) Even those school leavers from the multi-purpose schools who seek admission in the universities experience difficulties of adjustment, particularly in courses demanding a good knowledge of science and mathematics, as the courses in these subjects in the multipurpose schools are not geared to the requirements of the university. It is not surprising, therefore, that engineering colleges prefer students of the science stream who have a better grounding in general science and mathematics to those of the technical stream who have been given just an elementary knowledge of mechanical and electrical engineering.

(d) It is found that certain streams are not as popular as the others. Fine Arts, Home Science and even Humanities do not, generally speaking, attract a large number of students in the multipurpose schools.

(e) On account of the heavy expenditure involved in and the numerous problems created by a multiplicity of streams in the multipurpose school, conversion has been effected by introducing, generally speaking, three or at most four streams in the ordinary multipurpose school. In Maharashtra, where the teaching of general

science is a compulsory subject in the high school course up to Class X and a separate science stream is not required, a school can be recognised as a multipurpose school, if it has one practical course (Fine Arts, Commerce or the Technical Course) in addition to the general course. By such reduction in the number of courses, the aim and purpose of the introduction of the diversified curriculum has been partially defeated, as students in the multipurpose school are restricted in the choice of the electives in accordance with their interests, aptitudes and abilities.

(f) The provision of the diversified courses of instruction imposes on school managements the additional responsibility of giving proper guidance to pupils in their choice of courses and careers. Though most State Governments have established Bureaus of Educational and Vocational Guidance, the impact of their work on the processes of selection at the secondary school stage has been insignificant. There are no trained counsellors in the multipurpose schools to help the students to select various streams in accordance with their aptitudes, and no reliable and valid tools with which to organise a guidance programme.

(g) As has been already indicated above, the curriculum of the multipurpose school reflects the confusion regarding the purposes and functions of the school. While the educational programme proposed in the Commission's report is intended for those students who have to terminate their studies after Class XI as well as those who desire to pursue them further, it actually caters to the requirements of the students in the second category. In their anxiety to avoid all kind of narrow specialisation and job-oriented education, the Commission proposed the study of as many as six core subjects including two languages (which, on the basis of the three language formula, became really three languages later on). The curriculum has, therefore, been criticised as being heavy and over-loaded. The syllabi in the practical subjects caused among teachers as well as students a lot of dissatisfaction which has been accentuated by the paucity of

suitable textbooks and the absence of instructional material.

(h) But the fundamental weakness of the multipurpose school is the lack of qualified and trained teachers for teaching the practical subjects that have been introduced in the new institutions. "In the majority of cases," says the Report of the Commission, "we recommend that such teachers should be graduates in the particular subject and should have received training in teaching." While this recommendation is laudable, no attempt was made to find out how many graduates in technology, agriculture, commerce and home science would be required for the multipurpose schools and what would be the method of producing them within a reasonable period of time. In some of the practical subjects facilities for training do not exist in any of the training institutions; but since even the teachers required are not available, the question of training is of secondary importance. It is only at a very late stage that the complexity and magnitude of the problem was realised. The shortage of the teaching staff in the multipurpose schools may be regarded as the greatest stumbling block in the way of the implementation of the programme for the conversion of schools into multipurpose institutions.

### III. A NEW APPROACH TO EXAMINATION AND EVALUATION:

#### 15. The Commission's Recommendations

The Commission's major proposals regarding the reform of examination and evaluation at the secondary school stage are given below:-

- (1) The number of external examinations should be reduced and the element of subjectivity in the essay-type tests should be minimised by introducing objective tests and also by changing the type of questions.
- (2) In order to find out the pupil's all-round progress and to determine his future, a proper system of school records should be maintained for every pupil indicating the work done by him from time to time and his attainments in the different spheres.
- (3) In the final assessment of the pupils due credit should be given to the internal tests and the school records of the pupils.
- (4) There should be one public examination at the completion of the secondary school course.
- (5) The certificate awarded should contain, besides the

results of the public examination in different subjects, the results of the school tests in subjects not included in the public examination as well as the gist of the school records.

16. Encouraging developments:

In the discussion of the positive features of the education developments that have taken place in consequence of the Commission's recommendations, it was pointed out that a new approach to examination and evaluation was initiated by the Government of India in 1958 and a phased programme of examination reform was started with the establishment of an Examination Unit of well-trained Evaluation Officers at the Centre. The work done by the Unit in involving schools, training colleges, State Departments of Education, and above all, Boards of Secondary Education throughout the country in this dynamic programme is truly remarkable. The movement has gathered momentum in recent years. The Boards now stand committed to several useful proposals for the improvement of the public examination. In fact, some of these proposals are already being implemented effectively. But the task is so stupendous that it will take considerable time for the new measures to make their impact on objectives, learning experiences and evaluation procedures in our secondary schools.

Let us see to what extent the Commission's recommendations regarding the reform of examination and evaluation have been carried out.

17. Public examinations at the secondary stage:

The Commission recommended that there should be only one public examination at the end of the school course, which may be either the high school final or higher secondary school examination. An external examination at the end of the Class VII or VIII, however, still exists in some of the States. Punjab which had abolished the middle school examination has restored it because its abolition was believed to have removed the only real incentive for effective instruction and hard work in the middle schools. Delhi has now introduced an examination conducted by the Delhi Directorate of Education at the end of the Class VIII with the object of having a

proper selection of students for the higher secondary schools.

18. Reducing the element of subjectivity:

Definite steps have been taken by most Boards of Secondary Education to introduce a certain percentage of objective-type tests in some subjects in their question papers. The percentage varies from 10 to 30 in different States. Short-answer questions are also becoming increasingly popular at certain centres. In Mysore, Maharashtra and Gujarat, for example, almost the entire question paper in General Science or Social Studies at the external examination is of the short-answer type. The Rajasthan Board has launched a comprehensive programme of examination reform with objective-based questions on the lines suggested by the Central Examination Unit. On the other hand, it must be pointed out that Madras which had started using objective-type tests in its external examination papers as far back as 1949 abandoned the measure in 1959. Similarly, Punjab which introduced the new type tests in 1959-60 went back on the reform three years later.

It is realised now that the mere introduction of objective-type tests and short-answer questions in the question-papers does not by itself constitute a radical reform unless other measures are taken to improve the validity and reliability of the examinations. A cursory glance at the question papers of the different Boards reveals that even today more than 85% of the questions are of the information type which test rote memory rather than real understanding. Moreover, the vagueness and ambiguity of the wording of many of the questions and the provision of optional questions which enable candidates to neglect substantial portions of a syllabus allow innumerable chance factors to operate which affect adversely the reliability of the external examination.

19. Proper system of school records:

The Commission attached considerable importance to the maintenance of cumulative records in the schools which would not only present a clear and continuous statement of the pupil's performances in the school subjects, but would also contain a



progressive evaluation of his development in other directions, such as the growth of his interests, aptitudes and personality traits, his social adjustments and the practical social activities in which he took part. Though cumulative school records have been introduced in schools in many of the States, their real value and significance have not been realised, and the teachers concerned have not been trained or guided in their use. A cumulative record in most schools is very often little more than a statement of the pupil's marks in periodic, terminal and annual examinations. Without proper training, the teacher is unable to assess the pupil's interests, aptitudes and personality traits, and if called upon to do so for making the necessary entries in the cumulative record, he draws upon his own impressions and observations. The suggestion made by the Commission in its report that teachers would have to use a number of tests of different kinds - intelligence tests, attainment tests, aptitude tests etc. - could not be carried out because the tests required either do not exist or cannot be administered by the teacher.

20. Credit for Internal Assessment:

The Commission recommended that in the final assessment of the pupils due credit should be given to the school records and the internal tests, and that the certificates awarded by the examining bodies should contain not only the results of the public examination but also the results of the schools tests and the gist of the school records. The Seminar on Examinations held at Bhopal in February 1956, which considered the Commission's recommendation regarding internal assessment, proposed that as an initial measure 20 percent of the total number of marks in each subject should be allotted to the assessment of the candidate's performances as given in his record. In pursuance of these recommendations, a few Boards of Secondary Education started giving weightage to internal assessment in the public examinations. At present, there are six examining bodies that have introduced this system. But in general the Boards have proceeded very cautiously in the matter, and quite a number of them

(for example Gujarat, Kerala, Madras, Orissa) have not even considered the question very seriously.

The percentage of marks allotted to internal assessment varies from Board to Board, ranging from 10 to 25 per cent. The criteria for internal assessment are also different. In some cases, the assessment is based only on written tests, while in others attendance, home-work and co-curricular activities are taken into consideration for the purpose. Except in the Punjab, the general practice is to add the internal assessment marks to those of the external assessment. This has been criticised, but there is no general agreement as to the best formula by means of which the results of the two types of appraisal can be combined.

The results of the experiment carried out by the different Boards with regard to internal assessment have not been very encouraging. The Bihar Board abolished the system in 1963 because it led to many abuses. The Vidarbha Board found that there was no correlation between the internal assessment and the external assessment, particularly in the case of students who were in categories below the average, and that assessment in respect of class-work, home work and co-curricular activities was chiefly based on the general opinion of the subject teachers rather than on any class records. "The only way to make the teachers' judgments reliable", says the Report of the Commission, "is to rely on them." In the situation existing in most of our schools today, it seems to be difficult to get reliable and unbiased reports of internal assessment unless the objectives of internal assessment are clarified, well-defined criteria for such assessment suited to the conditions of the schools and the capacities of the teachers are laid down, and proper training and guidance is given to the teachers in the maintenance of school records.

V. IMPROVEMENT OF TEACHING PERSONNEL

21. The Commission's recommendations

The Secondary Education Commission regarded the teacher as the most vital factor in the contemplated educational reconstruction and believed that his personal character, his educational qualifications, his professional training and the place he occupies in the school and community were matters deserving priority of consideration. The Report says: "The reputation of the school and its influence on the life of the community invariably depend on the kind of teachers working in it..... We are convinced that, if the teachers' present mood of discontent and frustration is to be removed and education is to become a genuine nation-building activity, it is absolutely necessary to improve their status and their conditions of service".

Chapter XII of the Commission's report deals at considerable length with (a) the improvement of the teaching personnel in secondary schools and (b) the improvement of teacher training. The following are the major recommendations on these two subjects:

(a) Improvement of the teaching personnel

(1) A reasonably uniform procedure should be devised for the selection and appointment of teachers for all types of school.

(2) In all privately managed institutions and in schools maintained by local boards there should be a small Selection Committee entrusted with the responsibility of recruiting the staff, with the headmaster as an ex-officio member.

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(3) Teachers working in High Schools should be graduates with a degree in education; those who teach technical subjects should be graduates in the subject concerned with the necessary training for teaching it; teachers in higher secondary schools should possess higher qualifications, somewhat similar to those prescribed in some Universities for teachers of the Intermediate Colleges.

(4) The teachers possessing the same qualifications and performing the same type of work, should be treated on a par in the matter of grades of salary irrespective of the type of institution in which they are working.

(5) Special Committees should be set up to review the scales of pay of teachers of all grades and recommend such scales of pay that will meet in a fair and just manner the varying cost of living.

(6) In order to relieve teachers from anxieties about their own and their dependents' future which will affect the efficiency of their work, the system of triple benefit scheme, pension-cum-provident fund-cum-Insurance, should be introduced in all States.

(7) Arbitration Boards or Committees should be established to look into the appeals and grievances of teachers and to consider matters relating to suspension, dismissal etc.

(8) The age of retirement in the case of physically fit and competent teachers may be extended to 60 with the approval of the Director of Education.

(9) The practice of private tuitions by teachers should be abolished.

(10) Persons in high public position should give special recognition to the teachers' social status and the dignity of their profession.

(b) Improvement of teacher training

(1) There should be only two types of institutions for teacher-training: (i) for those who have taken the School Leaving Certificate or Higher Secondary School Leaving Certificate, for whom the period of training should be two years; and (ii) for graduates for whom the training may, for the present, be of one academic year, but extended as a long term programme to two academic years.

(2) Graduate teacher-training institutions should be recognised by and affiliated to the Universities which should grant the degrees, while the secondary grade training institutions should be under the control of a separate Board appointed for the purpose.

(3) The training colleges should, as a normal part of their work, arrange refresher courses, short intensive courses in special subjects, practical training in workshop and professional conferences.

(4) Training college should conduct research work in various important aspects of pedagogy and for this purpose it should have under its control an experimental or demonstration school.

(5) No fees should be charged in training colleges, while during the period of training all the student-teachers should be given suitable stipends by the State; the teachers who are already in service should be given the same salary which they were getting.

We shall group the above recommendations under suitable sub-headings and find out to what extent they have been implemented.

22. Methods of recruitment

More than ten years have elapsed since the Commission submitted its report, but there still seems to be no uniformity in the systems prevailing in the different

States regarding the recruitment of teachers in secondary schools. Recruitment in Government schools is regulated by the usual prescribed procedures, which may be regarded as more or less satisfactory. Some States have laid down general rules for the selection and appointment of teachers in private schools also. In spite of this, however, the methods of recruitment in schools run by private bodies have considerable scope for improvement. Even where selection committees, as recommended by the Commission, are entrusted with the responsibility of recruiting the staff, the selection is not always based on merit, but is often influenced by family or caste or other extraneous considerations or, as in Kerala, by the payment of a premium by the prospective candidate. The Commission's suggestion that a nominee of the Department of Education in every State should be on the Managing Committee of private schools has not been taken seriously even by the Departments themselves.

23. Qualifications of teachers

The Commission was of the view that all teachers working in high schools should be graduates with a degree in Education. In fact, even with regard to the middle schools, it was the Commission's hope that in course of time education at this stage would be imparted by graduate teachers. Statistics show that in 1960-61 graduates constituted less than 5% of the teaching staff in the middle schools and that nearly half the number of teachers were non-matriculいたes. As regards the high school stage, only about 48% of the total number of teachers in high/higher secondary schools in 1960-61 were graduates and nearly 36% of all the teachers in these schools were untrained. It must be pointed out, however, that among the non-graduate teachers in the high/higher secondary schools would be language teachers and teachers of special subjects such as crafts, music, drawing and physical education.

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(b) The Commission also recommended that teachers of the practical subjects included in the diversified courses of studies should be graduates in the subject concerned and should have the necessary training for teaching it. As has already been explained in the comments made on the multipurpose schools in paragraph 14(b) above, this recommendation was good in theory, but it could not be implemented, as no estimates were prepared of the number of graduate teachers required for the technical, agricultural, commercial and home science streams of the multipurpose schools, and no suggestions were offered as to how these teachers could be produced within a reasonable period of time. Since graduates qualified to teach the practical subjects are not easily available, the proposal about their having the necessary training seems to be unrealistic and meaningless. It is only with the recent establishment of the four Regional Colleges of Education at Ajmer, Bhopal, Bhubaneswar and Mysore that a concerted attempt has been initiated for training teachers for the practical streams of the multipurpose schools.

(c) It was proposed by the Commission that the teachers in higher secondary schools should possess higher qualifications somewhat similar to those prescribed in some universities for teachers of the Intermediate colleges, viz. an M.A. or B.A.(Hons.) degree and a degree in teaching. This proposal also seems to be unrealistic as it bears no relationship to the total number of M.A.'s or M.Sc.'s actually turned out by the universities every year. Since a large number of teachers with higher qualifications are required for upgrading the schools, and there is no well-planned programme for the expansion of post-graduate education, the problem of staffing the higher secondary classes in the re-organised schools has become very acute. In fact, one

of the reasons for the inefficacy of the reorganised pattern of secondary education has been our failure to procure an adequate number of qualified and competent teachers for the upgraded courses of the higher secondary schools.

24. Salary scales and conditions of service

(a) The pay-scales of teachers of all grades have been revised in most of the States and there has been an appreciable increase in their salaries between the years 1950-51 and 1960-61. But this increase varies considerably among the different grades of teachers, being about 60% in the case of primary teachers, 55% in the case of middle school teachers, and only 33.6% in the case of high and higher secondary teachers. It need hardly be added that the increase in pay has not kept pace with the rise in the cost of living, particularly in recent years.

There is considerable variation in the salary scales of teachers from State to State. The average annual salary of a high or higher secondary school teacher in the country is Rs.1681.3. In Jammu and Kashmir, Kerala, Bihar and Orissa, the annual average salary drawn by a high or higher secondary school teacher is much below the national average, being Rs. 1293.1, Rs. 1,346.4, Rs. 1,355.1 and Rs. 1,380.00 respectively. These figures of average salaries are to some extent misleading, for the actual amounts of salary drawn by secondary school teachers in private institutions in certain areas are much less than the amounts shown in the account books of the schools.

(b) The Commission recommended that teachers having the same qualifications and doing the same type of work should be treated on a par in the matter of salary scales irrespective of the type of institutions in



which they were working. This parity has, generally speaking, been established in the matter of remuneration (except that in U.P. and Bihar there is, in many cases, considerable difference in the rates of dearness allowance paid to teachers in government and to teachers in non-government schools). With regard to old-age benefits, however, the gap between government schools and local board or private schools is very wide. Whereas a secondary school teacher in a government school gets a pension and a gratuity on retirement, a teacher of the same category in a private school, and often even in a local board school, is entitled only to the provident fund. The triple benefit scheme recommended by the Commission has been introduced only in Madras, Mysore and Kerala. This lack of parity between teachers with the same qualifications working in different types of institutions continues to be a major cause of dissatisfaction.

(c) Attempts have been made in several States to improve the conditions of service of teachers in secondary schools, as recommended by the Commission. The Education Departments have laid down rules ensuring security of tenure for the teaching staff, and these rules are sometimes strictly enforced. A few other amenities like free education of teachers' children, uniform leave rules, etc. have also been provided in many States. Moreover, in order to raise the status of the profession, the Commission's advice that teachers who have shown outstanding merit in their work should receive due recognition from the State has been accepted, and national awards are given every year to dedicated teachers of . . . . . experience who have done notable work in their field. But the ameliorative measures undertaken so far have not made the teaching profession more attractive than it was before.

The conditions of service and also the conditions of work in many of the schools run by local boards and private agencies continue to be unsatisfactory, and the treatment of teachers by managements of private institutions is often inconsistent with the dignity of the profession.

25. Teacher training

(a) The Commission's recommendation regarding the necessity of having only two types of teacher-training institutions in the country - one for graduates and the other for holders of the secondary school leaving certificates - has not been implemented. State Governments have found it difficult for financial and administrative reasons to change the pattern of the existing training institutions in their areas. Similarly, the other important proposal, that graduate teacher training colleges should be recognised by and affiliated to the universities alone while the secondary grade training schools should be under the control of a separate Board specially created for this purpose, has not been accepted everywhere. In U.P. the L.T. training classes are still controlled by the State Department of Education and not by the University, and in Bihar the Basic Diploma in Education is under the administrative jurisdiction of the Department of Education. With regard to the training schools, it was also suggested by the Commission that they should provide for a two-year course after the school leaving certificate or the higher secondary school certificate. Many State Governments have not found it possible to make provision for this longer course.

(b) Secondary training colleges, according to the Commission, were expected to conduct research work in various important aspects of pedagogy. For this purpose it was recommended that they should have under their control experimental or demonstration schools. The inadequate

facilities at the disposal of most training institutions have not been conducive to the development of research projects. Many of them do not have practising schools attached to them, so that even if <sup>a</sup> useful experimental project is planned it cannot be tried out within the precincts of the training institution. In fact, some training colleges do not possess even a proper laboratory or the requisite teaching equipment for their trainees. What is most depressing is that ~~very~~ few institutions have a well-qualified staff capable of undertaking significant research projects. It is not surprising, therefore, that our teacher training institutions have not contributed much to educational thinking in the country.

(c) The Commission recommended that a training college should, as a normal part of its work, arrange for courses of in-service training. It was here that the Commission made the most effective contribution to the improvement of teacher education. The dynamic programme of inservice training that was started as a result of the Secondary Education Commission's recommendation has been discussed in the introductory pages of this Note. It was pointed out how the 52 extension service centres established in training colleges in different parts of the country brought these institutions into vital contact with the schools in the vicinity and helped these schools in the solution of their many day-to-day problems. The extension project was later extended to cover 92 teachers colleges which are now carrying out a very effective programme of in-service education by means of seminars, workshops and conferences and audio-visual, library and guidance services.

In conclusion, it may be said that though the Secondary Education Commission in their Report have considered the vital question of the improvement of secondary school teachers and the teacher-training institutions, some important aspects of this question have been overlooked in the Report or not treated adequately enough in relation to their importance. This <sup>deficiency</sup> may be explained by the fact that teacher education is only one of the many areas of study covered by the Report, and a comprehensive treatment of the subject was not possible. In their review of the situation, the Commission have not highlighted some of the major weaknesses of the existing system of teacher education, such as: (a) the inadequacy of existing training facilities at the secondary school level; (b) the poor quality of the training imparted due to defective curricula and lack of proper equipment; (c) the poor quality of the teacher educators themselves; (d) the poor subject knowledge of most of the trainees; and (e) the absence of any dynamic programme in the training institutions for research and experimentation. These defects were considered subsequently by special committees and study groups who have made several valuable proposals for the improvement of teacher education.

EDUCATION COMMISSION  
Government of India

Subject: Visit to States

All the State Governments have appointed Liaison Officers with the Education Commission and a conference of these officers was held in Delhi on the 20th and 21st instant. In the light of the discussions at this conference, I propose the following programme of visit to States for consideration of the Education Commission:-

<u>Month</u>	<u>States to be visited</u>
January 1965	(1) Rajasthan (2) Mysore
February 1965	(1) Assam (2) West Bengal (3) Orissa
March 1965	(1) Madras (2) Kerala
April 1965	(1) Uttar Pradesh (2) Bihar
May 1965	(1) Punjab (2) Jammu & Kashmir
June 1965	(1) Maharashtra (2) Gujarat
July 1965	(1) Andhra Pradesh (2) Madhya Pradesh.

2. In so far as Union Territories are concerned, it will not be necessary for the Commission as a whole to visit them. I propose that they should be visited in small groups consisting of one or two members of the Commission. The programme of these visits could then be drawn up separately in consultation with the Administrations of these Union Territories.
3. It will be seen that we must pay a visit to two States at least in every month and in one month we have to visit at least three States so that the whole programme of visiting the 15 States could be completed in seven months. This is rather a strenuous programme; but there seems to be no help for it.

4. It is proposed that the Commission would spend six days in each State. Three of these days would be spent at the headquarters and for the remaining three days, the Commission will divide itself into a number of groups and visit different centres in the States. The number of groups proposed by the Liaison Officers varies from two in Jammu & Kashmir to five in Rajasthan and is shown below :-

<u>Name of the State &amp; number of centres</u>	<u>Centres to be visited by different groups</u>
Andhra Pradesh (4)	Waltair, Warrangal, Tirupati, Hyderabad
Assam (4)	Hill Districts, Upper Assam Lower Assam, Southern Assam
Bihar (4)	Patna, Tirhut, Bhagalpur, Chhota-Nagpur
Gujarat (4)	Kutch, Rajkot, Surat, Baroda
Jammu & Kashmir (2)	Srinagar, Jammu
Kerala	
Madras (3)	Coimbatore, Madurai, Madras
Madhya Pradesh (4)	Gwalior, Jabalpur, Ujjain, Raipur
Maharashtra (3)	Nagpur, Aurangabad, Poona
Mysore (3)	Dharwar, Mysore, Bangalore
Orissa (3)	Bhubaneswar, Cuttack, Puri Sambalpur, Rourkela
Punjab (3)	Jullundur, Ambala, Patiala
Rajasthan (5)	Jaipur, Bikaner, Ajmer, Jodhpur, Udaipur
Uttar Pradesh (4)	Banaras, Allahabad, Meerut Jhansi
West Bengal (4)	(i) Calcutta, Howrah, 24 Parganas; (ii) Burdwan, Hugli; (iii) Midnapur, Purulia; (iv) North Bengal Districts.

The matter is placed before the Commission for discussion and decision.

J.P. NAIK  
Member-Secretary  
30-11-64

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FOURTH MEETING  
Third Supplementary Agenda  
ITEM NO. 28.

EDUCATION COMMISSION  
Government of India  
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New Delhi, 2nd December, 1964

Subject:- Educational Progress of the different States

Placed below are five tables comparing the educational progress in the different States for the year 1961-62 - the latest year for which Educational Statistics are available.

This data will show a comparison between the different States in respect of their educational progress at all different stages of education. It will be of interest to the Members of the Commission.

J.P. Naik  
Member-Secretary

PS to Chairman

All Members of the Commission

Associate-Secretary

All Officers of the Commission.

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Table No. I: General Educational Progress in India  
(By States) - 1961-62

Name of the State	Estimated Population (in lakhs) (1962)	Total Enrolment in all Edl. Institutions *	Total Expenditure on Education*	Percentage of Enrolment to Population	Educational Expenditure per head of population
Andhra Pradesh	368.63	42,34,893	26,46,59,139	11.5	7.18
Assam	121.60	16,71,822	10,39,75,576	13.7	9.86
Bihar	475.92	47,89,150	24,95,22,584	10.1	5.24
Gujarat	211.34	32,45,962	21,58,52,378	15.4	10.21
Jammu & Kashmir	36.53	3,64,177	3,01,10,191	10.0	8.24
Kerala	173.11	35,33,674	21,88,91,985	20.4	12.64
Madhya Pradesh	331.69	28,53,650	24,87,99,041	8.6	7.50
Madras	345.03	49,33,068	38,66,37,563	14.3	11.21
Maharashtra	405.10	71,90,561	56,87,16,720	17.7	14.04
Mysore	241.55	33,07,732	21,82,81,400	13.7	9.04
Orissa	179.82	17,75,222	7,46,08,857	9.9	4.15
Punjab	208.01	27,31,678	21,77,17,777	13.1	10.47
Rajasthan	206.46	17,81,110	14,75,13,543	8.6	7.14
Uttar Pradesh	755.50	66,12,104	44,96,02,747	8.8	5.95
West Bengal	357.89	43,83,296	38,09,32,140	12.2	10.64
ALL INDIA	4497.70	5,39,01,022	3,91,93,57,907	12.0	8.71

\* Figures are provisional.



Table No. II: Enrolment Percentage (Std. Groups) in Age-Group 6-11 (1961-62)

States	Estimated Child Population in the Age-Group (6-11) (in lakhs)			Enrolment in Standards I-V			Enrolment Percentage to respective Age-Group (6-11)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Andhra Pradesh	23.81	23.09	46.90	20,40,347	13,61,318	34,01,665	85.7	59.0	72.5
Assam	9.04	8.25	17.29	7,61,401	4,59,573	12,20,974	84.2	55.7	70.6
Bihar	30.59	29.19	59.78	25,98,355	8,09,220	34,07,575	84.9	27.7	57.0
Gujarat	14.31	13.47	27.78	14,53,599	8,29,437	22,83,036	101.6	61.6	82.2
Jammu & Kashmir	2.68	2.37	5.05	1,82,465	52,041	2,34,506	68.1	22.0	46.4
Kerala	10.81	10.72	21.53	13,25,493	11,59,701	24,85,194	122.6	108.2	115.4
Madhya Pradesh	22.12	20.46	42.58	17,03,786	5,18,037	22,21,823	77.0	25.3	52.2
Madras	21.66	20.92	42.58	22,49,389	14,68,079	37,17,468	103.8	70.1	87.3
Maharashtra	27.48	25.79	53.27	27,47,326	16,11,789	43,59,115	100.0	62.5	81.8
Mysore	15.90	15.89	31.79	15,28,058	9,94,777	25,22,835	96.1	62.6	79.4
Orissa	11.63	11.13	22.76	10,07,666	4,58,660	14,66,326	86.6	41.2	64.4
Punjab	14.52	12.81	27.33	12,54,111	6,96,231	19,50,342	86.4	54.4	71.4
Rajasthan	14.37	13.05	27.42	10,12,069	2,42,367	12,54,436	70.4	18.6	45.7
Uttar Pradesh	50.92	46.10	97.02	37,31,571	11,58,325	48,89,896	73.3	25.1	50.4
West Bengal	22.28	21.20	43.48	20,28,643	11,05,682	31,34,325	91.1	52.2	72.1
ALL INDIA	2,97.26	2,79.19	576.45	2,61,40,376	1,26,43,564	3,87,83,940	87.9	45.3	67.3

Table No. III: Enrolment Percentages (Std. Groups) in Age-Group 11-14 (1961-62)

S t a t e s	Child Population in the Age-Group 11-14 ( in lakhs)			Enrolment in Stds. VI-VIII in all schools			Enrolment Percentage to respective Age-Group(11-14)		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
A-andhra Pradesh	11.70	11.62	23.32	3,55,247	1,07,384	4,62,631	30.4	9.2	19.8
A-ssam	3.91	3.65	7.56	1,69,226	67,183	2,36,409	43.3	18.4	31.3
Bihar	14.61	14.40	29.01	5,00,245	61,086	5,61,331	34.2	4.2	19.3
Gujarat	6.96	6.62	13.58	3,04,531	1,21,238	4,25,769	43.8	18.3	31.4
Jammu & Kashmir	1.32	1.17	2.49	52,170	16,466	68,636	39.5	14.1	27.6
Kerala	5.43	5.69	11.12	4,43,887	3,33,529	7,77,416	81.7	58.6	69.9
Madhya Pradesh	10.56	9.91	20.47	3,01,693	64,548	3,66,241	28.6	6.5	17.9
Madras	10.81	10.86	21.67	5,27,975	2,33,562	7,61,537	48.8	21.5	35.1
Maharashtra	13.39	12.66	26.05	6,75,604	2,52,009	9,27,613	50.5	19.9	35.6
Mysore	7.85	7.80	15.65	2,87,162	1,14,150	4,01,312	36.6	14.6	25.6
Orissa	5.59	5.37	10.96	1,11,028	15,497	1,26,525	19.9	2.9	11.5
Punjab	7.07	6.44	13.51	3,77,013	1,04,853	4,81,866	53.3	16.3	35.7
Rajasthan	7.03	6.31	13.34	2,06,588	33,798	2,40,386	29.4	5.4	18.0
Uttar Pradesh	24.73	22.56	47.29	7,97,304	1,39,407	9,36,711	32.2	6.2	19.8
West Bengal	11.73	11.15	22.88	4,17,922	1,55,625	5,73,547	35.6	14.0	25.1
ALL INDIA	145.19	138.63	283.82	56,26,114	18,06,005	74,32,119	38.8	13.0	26.2

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Table No. IV: Enrolment Percentages in Age-Group 14-17 ( 1961-62)

STATES	Child population in the Age-Group 14-17 ( in lakhs)			Enrolment in Standards IX-XI/XII			Enrolment in Percentage to respective age-group 14-17		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Andhra Pradesh	10.86	10.74	21.60	1,81,929	35,888	2,17,817	16.8	3.3	10.1
Assam	3.41	3.22	6.63	1,12,334	32,823	1,45,157	32.9	10.2	21.9
Bihar	12.91	12.86	25.77	3,40,749	21,356	3,62,105	26.4	16.6	14.1
Gujarat	6.42	6.03	12.45	1,63,133	61,152	2,27,285	25.9	10.1	18.3
Jammu & Kashmir	1.17	1.05	2.22	21,159	6,486	27,645	18.1	6.2	12.5
Kerala	5.14	5.42	10.56	1,17,081	79,732	1,96,813	22.8	14.7	18.6
Madhya Pradesh	9.54	8.90	18.44	1,22,050	21,582	1,43,632	12.8	2.4	7.8
Madras	10.18	10.19	20.37	2,15,417	77,384	2,92,801	21.2	7.6	14.4
Maharashtra	12.34	11.54	23.88	3,39,519	1,04,817	4,44,336	27.5	9.1	18.6
Mysore	7.35	7.12	14.47	1,47,586	42,915	1,90,501	20.1	6.0	13.2
Orissa	4.99	4.79	9.78	47,991	4,683	52,674	9.6	1.0	5.4
Punjab	6.44	5.88	12.32	1,58,042	35,628	1,93,670	24.5	6.1	15.7
Rajasthan	6.25	5.65	11.90	86,622	8,786	95,408	13.9	1.6	8.0
Uttar Pradesh	22.51	20.44	42.95	3,44,583	42,568	3,87,151	15.3	2.1	9.0
West Bengal	11.26	10.50	21.76	1,84,152	52,682	2,36,834	16.4	5.0	10.9
ALL INDIA	1,33,08	1,26.54	2,59,62	26,31,400	5,81,550	32,12,950	19.8	4.6	12.4

Table No. V: Statistics of Higher Education (1961-62)

STATES	Estimated Population (000s)	Total Enrolment			Total Enrolment at Arts, Science & Commerce	% of Arts, Sc. & Commerce to total Enrolment	Total Expenditure Rs.	Enrolment per 1000 Population			Total expenditure per head of Population.
		Boys	Girls	Total				Boys	Girls	Total	
Andhra Pradesh	3,68,63	51,978	8,346	60,324	44,613	74.0	3,70,04,837	1.41	0.23	1.64	1.00
Assam	1,31,60	27,861	4,332	32,193	29,383	91.3	1,27,26,334	2.29	0.36	2.65	1.05
Bihar	4,75,92	98,762	7,171	1,05,933	90,526	85.5	3,73,75,131	2.07	0.15	2.22	0.79
Gujarat	2,11,34	43,477	8,394	51,871	40,394	77.9	3,84,20,119	2.06	0.40	2.46	1.82
Jammu & Kashmir	36,52	7,416	2,619	10,035	8,311	82.8	55,62,697	2.03	0.72	2.75	1.52
Kerala	1,73,11	35,207	15,150	50,357	41,626	82.7	2,32,76,791	2.03	0.88	2.91	1.34
Madhya Pradesh	3,31,69	46,939	7,598	54,537	34,477	63.2	4,19,11,073	1.41	0.23	1.64	1.26
Madras	3,45,03	58,413	15,732	74,145	45,312	61.1	4,77,13,812	1.69	0.46	2.15	1.38
Maharashtra	4,05,10	1,10,068	32,323	1,42,391	1,09,840	77.1	9,12,52,980	2.71	0.80	3.51	2.25
Mysore	2,41,55	47,270	9,421	56,691	39,299	69.3	3,23,47,070	1.96	0.39	2.35	1.34
Orissa	1,79,82	15,432	2,001	17,433	13,153	75.4	85,58,724	0.86	0.11	0.97	0.48
Punjab	2,08,01	45,477	13,298	58,775	47,394	80.6	3,81,37,352	2.19	0.64	2.83	1.83
Rajasthan	2,06,46	28,342	4,425	32,767	26,252	80.1	2,44,01,860	1.37	0.21	1.58	1.18
Uttar Pradesh	7,55,50	2,35,051	34,461	2,69,512	2,45,519	91.1	10,44,80,195	3.11	0.46	3.57	1.38
West Bengal	3,57,89	1,08,150	34,366	1,42,516	1,21,642	85.3	7,65,92,436	3.02	0.96	3.98	2.14
ALL INDIA	44,97,70	9,72,363	2,04,882	11,77,245	9,49,462	80.6	64,67,23,979	2.16	0.46	2.62	1.44

EDUCATION COMMISSION  
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Subject:- Appointment of Consultants

The following proposal is made by Dr. V.S. Jha for the consideration of the Commission :-

"I propose that Sir Christopher Cox, Educational Adviser to the Department of Overseas Development, London, be invited as a Consultant to the Commission. I spoke to the Chairman about this idea and he encouraged me to make a proposal to the Commission as early as possible.

Sir Christopher Cox is a widely travelled educationist and he is in touch with educational developments in many countries.

In 1962 he visited India and made a study of the situation obtaining here. It would be worthwhile having him for a few days and getting the benefit of his experience.

I had a talk with the British Council people and they feel that while there are certain restrictions in the funds for obtaining more British experts, the case of Sir Christopher Cox could be considered differently because perhaps the Department of Overseas Development in the United Kingdom may agree to share the burden. I shall be glad if this proposal is included in the agenda of the next meeting of the Commission.

I enclose herewith the Curriculum Vitae of Sir Christopher Cox."

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Curriculum Vitae

COX, Sir Christopher Villiam Machell, KCMG, cr. 1950 (CMG 1944); Educational Adviser, Department of Technical Cooperation since 1961; b. 17 November 1899; e.s. of late AH Machell Cox, Chevin Close, St. Audries, Somerset. Educ.: Clifton College; Balliol College, Oxford. 2nd Lt.R.E. (Signals), 1918; 1st Class Classicial Moderations; 1st Class Lit.Hum., 1923; War Memorial Student, Balliol College, 1923-1924; Craven Fellow Oxford Univ., and Senior Demy, Magdalen College, 1924-26; Archaeological Exploration in Turkey, 1924, 1925, 1926, 1931; Fellow of New College, Oxford, since 1926; Sub-Warden, 1931; Dean 1934-36; visited Africa, 1929; Persia 1936; Director of Education, Anglo-Egyptian Sudan, and Principal of Gordon College, Khartoum, 1937-39; member of Governor-General's Council, 1938-39; Educational Adviser to the Secretary of State for the Colonies, 1940-61; President, Education Section, British Association, 1956. Hon.D.Lit. Belfast, 1961; Hon. LL.D. Hong Kong, 1961; Hon. LL.D. Leeds, 1962. Publications: Monumenta Asiae Minoris Antiqua, Vol.V (with A. Cameron) 1937; occasional papers.

Sir Christopher Cox visited India in 1962 and he is in touch with educational development in most of the developing countries.

At present he is Educational Adviser to the Department of Overseas Development and Fellow, New College, Oxford.

J.P. Naik  
Member-Secretary