

SIXTH MEETING
of the
EDUCATION COMMISSION

Minutes & Agenda
Papers

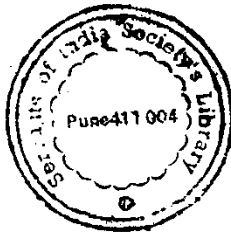
(26th February & 1st March, 1965)



EDUCATION COMMISSION
GOVERNMENT OF INDIA
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SIXTH MEETING
of
The Education Commission
Minutes & Agenda
Papers.



(26th February & 1st March, 1965)

EDUCATION COMMISSION
GOVERNMENT OF INDIA
University Grants Commission Building.
NEW DELHI.

Sixth Meeting of the Education Commission
held on the 26th February and 1st March, 1965.

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MINUTES OF THE SIXTH MEETING OF THE
EDUCATION COMMISSION HELD AT NEW DELHI
ON 26TH FEBRUARY AND 1ST MARCH, 1965.

EDUCATION COMMISSION
GOVERNMENT OF INDIA
NEW DELHI

3. Medium of Instruction: The problem of the medium of instruction was discussed at considerable length. It was not possible to reach any agreement and no decisions were taken. In the course of the discussions, however, the various aspects of the problem which will need close examination became evident and they have been put down below for further studies:

(a) Medium of instruction at university stage: There was a view that there should be one medium of instruction of higher education throughout the country and that it should be the official language of the Union - English, for the time being, to be replaced ultimately by Hindi. On the other hand, there was also a view that the regional languages are inevitably becoming the media of instruction at the university stage and that, from now on, careful plans have to be prepared for this change-over without affecting standards or the integrity and unity of the country. The problem was linked up with the medium of examinations in the UPSC and SPSC examinations and also with the future of the all-India Services.

It was also pointed out that the financial costs involved in a programme of adopting regional languages as the media of instruction at the university stage are likely to be very prohibitive and that this aspect of the problem also should be investigated before a final decision is taken.

A plea was also made for a bilingual approach to the problem - regional language plus English - or, in the alternative, for developing the regional languages as the media of instruction and retaining the official languages of the Union - English and Hindi - as associate or supplementary media.

EDUCATION COMMISSION
(GOVERNMENT OF INDIA)

MINUTES OF THE SIXTH MEETING OF THE EDUCATION COMMISSION
HELD ON 26TH FEBRUARY AND 1ST MARCH, 1965, IN THE
CONFERENCE ROOM OF THE UNIVERSITY GRANTS COMMISSION,
NEW DELHI.

PRESENT

1. Dr. D.S. Kothari (Chairman)
2. Shri A.R. Dawood
3. Prof. S. Ihara.
4. Dr. V.S. Jha
5. Shri P.N. Kirpal
6. Prof. M.V. Mathur
7. Dr. B.P. Pal.
8. Miss S. Panandikar.
9. Prof. Roger Revelle.
10. Dr. K.G. Saiyidain.
11. Prof. S.A. Shumovsky.
12. Mr. Jean Thomas.
13. Shri J.P. Naik.
14. Mr. J.F. McDougall

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

Shri K.L. Joshi, Secretary, University Grants Commission, was present by special invitation.

The following points emerged in the course of the discussion :

1. Minutes: The minutes of the fifth meeting of the Commission held at New Delhi on 8th and 9th January, 1965, were confirmed.
2. Meetings: The Prime Minister's orders regarding Wednesday as a meetingless day were noted. It was decided to observe them as far as possible.

It was pointed out that the problem of the medium of instruction in national or regional or inter-State institutions of higher education was particularly delicate and needed special consideration.

(b) Study of languages in schools: It was argued that the three-language formula, although political in origin, is inescapable in the present Indian situation and that attempts should now be concentrated on designing ways and means through which it could be implemented effectively. On the other hand, there was a view that, in its present form, the three-language formula was unworkable, that there was no point in insisting on the study of a third modern Indian language (preferably from the south) in the north to balance the disadvantage of the south in learning Hindi, and that an attempt should be made to see whether it is possible to replace the three-language formula by a two-language formula for the entire country or by a three-language formula in the south (with certain compensatory advantages) and a two-language formula in the north.

One view expressed was that some political compromise on the language issue has to be reached in the course of the next three or four months and that the Commission should accept this as the best consensus of opinion in the country and frame its proposals accordingly, without making any attempt to reopen the question. On the other hand, there was also a feeling that the Commission should express its view as to what is desirable from the educational point of view even if it were to differ from any agreed political compromise.

An important point on which clarification is needed is about the period for which all the three languages

have to be taught. According to the present practice, the three languages are to be taught for a period of six years (from class V or VI to class X or XI), while the political decision is said to require a study for not less than three years. It was decided that the necessary clarification should be obtained from the Ministry of Education and the Ministry of Home Affairs.

The effect of tri-lingualism on the intellectual ability or attainment of the students was discussed. Some felt that bi-lingualism, or even tri-lingualism, did not imply any handicap to the learners and did not adversely affect the attainment of the students, provided the languages were taught sufficiently early and with proper methods. On the other hand, there was a view that the present load of language study under the three-language formula is crushing and that it definitely interferes with the progress of the students and particularly with attainments in mathematics and science.

If three languages are to be learnt, the stages at which the teaching of the second and the third languages should begin are very important. One must also decide whether the second and the third languages could begin simultaneously or whether there should be a gap between the two beginnings and, if so, of what duration. It was decided to prepare two papers for the further consideration of this problem in the Commission. The first was to be prepared by Shri A.R. Dawood, indicating the existing position in this regard in the different States of India and the second was to be prepared by Mr. J.F. McDougall, showing the position in this regard in other countries. Prof. Shumovsky was also requested to give a note on this subject regarding the position in U.S.S.R.

The total time allocated to the study of the three

languages at the middle school and secondary stages is very important. It was decided to collect information on this subject from all the States in the country and also from other countries.

Attention was also invited to the proposals made by the Study Group on English for modification of the three-language formula at the school stage under which the three languages were to be studied not for six years, as at present, but for three years only.

(c) General: One general feeling expressed was that the controversy over the language is occupying too much of attention and prominence. In the totality of the problems before the country, language is really a minor issue. Even in education, its place is secondary rather than primary. Attempts have, therefore, to be made to deflate the intensity of the controversy as far as possible and to concentrate on the 'first things first'.

It was also pointed out that the attitude of the people to bi-lingualism or tri-lingualism is of very great importance. Where, as in Denmark, people are enthusiastic about learning languages, take pride in learning more languages, encouraging children to learn more languages, the total situation is greatly changed and children have much better motivation for learning languages. On the other hand, where the study of an additional language is regarded as an imposition, resistances are first built up among adults and are then passed on to the children so that an effective study of other Indian languages becomes very difficult. There is need, therefore, to consider how the public attitude to this problem could be suitably modified.

3. N.C.C.: The problem of the introduction of compulsory N.C.C. in the colleges was discussed. The general view was that there is hardly any proportionate return for the large sums that are now being spent on the programme of compulsory N.C.C., that these funds could be more profitably utilised for qualitative improvement of higher education, that the N.C.C. programme was having adverse effect on some aspects of life in the universities and particularly on the development of games and sports and that it would be better to provide N.C.C. on a voluntary basis. This would also make it possible to make the programme more intensive and worthwhile. No decision on the matter was, however, taken; and it was agreed to invite Shri G.D. Sondhi to give evidence before the Commission and also to discuss the matter with Major General Virendra Singh.

4. Discussions with Prof. Alexandrov: The following points made in the discussion with Prof. Alexandrov were broadly agreed to :-

(a) The Universities in India should adopt a programme for assisting qualitative improvement in schools. From this point of view, the work that is now being done in Russian Universities and their experience would be of great use. In particular, programmes like conducting experimental schools, selecting talented students from the schools and helping them to study the subjects of their liking to a deeper extent, conducting competitive examinations for finding out talent amongst school students in special fields, etc. need attention and careful consideration.

(b) It is desirable to break the close link-up which we now find in India between seniority and promotions and to discover suitable methods of promoting younger persons who have shown special ability or done creative and

valuable research.

(c) The problem of correspondence courses should be studied in detail and highlighted by the Commission. Mr. McDougall was requested to prepare a paper on the subject.

5. The guide lines circulated by the Planning Commission to the State Governments for preparing a fourth Five-Year Plan were discussed. It was felt that, although the Commission has not taken any final decision, the ideas contained in the guide lines are different, in several important broad lines, from the thinking in the Commission. The following illustrations may be given from this point of view :-

(a) The selective approach for development of institutions has been ignored;

(b) the target of reaching 40% enrolment in science sections at the University stage is too high;

(c) there is probably no need for Regional Councils of Research and Training;

(d) the ideas about the teaching of 'general' science need considerable modification;

(e) the programme of introducing scholarships at the secondary stage has been ignored.

It was decided that this matter should be taken up for further consideration with the Ministry of Education.

7. Visit to Rajasthan: The factual report of the visit of the Education Commission to Rajasthan State was recorded. Prof. M.V. Mathur was requested to prepare a note, for the Education Commission, regarding the main points arising out of this visit which will have to be examined in detail by the Education Commission.

8. The education system in France: The note prepared by Mr. Jean Thomas on the education system in France was discussed. On several points raised in the course of the discussion, clarifications were given by Mr. Thomas.

9. Conditions of Teachers in India: The note prepared by Mr. Thomas on conditions of teachers in India was discussed. The Commission felt very grateful to Mr. Thomas for having prepared this note and agreed broadly with the following two recommendations made by him :-

(a) The establishment, as early as possible, of a national scale of qualifications demanded of teachers at each level of education; and

(b) the simultaneous establishment of a national salary scale for teachers.

The meeting then terminated with a vote of thanks to the Chairman.

Sixth Meeting
of
The Education Commission

Selected Agenda Papers

EDUCATION COMMISSION
GOVERNMENT OF INDIA

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Subject:- Prime Minister's orders about treating
Wednesday as a meetingless day.

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The Prime Minister has desired that Wednesday should be treated as a totally meetingless day. A circular to this effect was received in the office of the Education Commission from the Ministry of Home Affairs. I then enquired whether these orders would also apply to the Education Commission. In reply, the Joint Secretary, Ministry of Home Affairs (Shri N. K. Mukerji) has advised as follows:-

" The circular about treating Wednesday as a meetingless day is based on a note recorded by the Prime Minister. It is his desire that as far as possible, Wednesdays should be totally meetingless days. Consistent with this, my advice would be that the Education Commission may also adhere to the ban on Wednesday meetings, as far as possible."

In view of the above, we will have to change our rule that the meetings of the Commission should be held on the second Wednesday of every month.

The matter is placed before the Commission for discussion and decision.

J. P. Naik
Member- Secretary
17.1.65

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

EDUCATION COMMISSION
GOVERNMENT OF INDIA

A Note on the problem of the medium
of instruction at the University stage

(Miss)S.Panandikar -
Member - Education Commission.

It needs to be emphasised that when we talk about the medium of instruction we mean the medium of teaching, of learning and of expression. The use of the term instruction is apt to make one forget the other two aspects which in the educational context are perhaps more important than that of instruction. This is not a problem merely of semantics but of correct emphasis and realisation of all the aspects inherent in the situation.

It is accepted on all hands that the mother-tongue is the most natural and, therefore, the most effective medium of expression and learning at all levels of education. It would hence be the best medium for instruction at all levels, as well.

It is because of our history and our diversity of languages that the generally accepted educational proposition poses problems, particularly when we consider the question of the medium of teaching and learning at the University level. In our educational history, the mother-tongue was always used as the medium of instruction in our primary schools, except in a few cases. The general practice in secondary schools was to start with the mother-tongue and to change over to English as the

medium half way through the course. Usually the change over took place 3 or 4 years before the end of the school period, so that the pupils studied all their subjects through English for 3 or 4 years before they entered college. In the colleges, except in a few rare cases such as Colleges of the Indian Women's University, English was the medium of instruction. Because the transition to English as a medium had taken place in the school where individual attention and guidance were provided by the teachers, it did not lead to serious difficulties, specially with the top students who joined the universities in those days.

As education spread and more students came into secondary schools and were desirous of joining colleges, it was realised that the use of English as the medium at the secondary stage was uneducational. It was definitely seen to come in the way of the educational progress of many students who were not particularly well up in English though fully capable of quite high academic achievements in the various subjects.

The movement to introduce the mother-tongue as a medium in the secondary schools started in the early thirties and gathered momentum after Independence when in the majority of secondary schools English was

replaced by the mother-tongue as a medium. Generally, the school authorities, parents and pupils welcomed the change though in some cases pressure had to be exerted on schools and restrictions imposed on the parents' choice of medium for their wards. Alongwith the generality of schools teaching through the mother-tongue, there were a number of schools, such as Protestant and Catholic Mission schools, Public Schools and a few prestige schools which continued to use English as the medium.

When the regional language or the mother-tongue came to be used as a medium in the majority of secondary schools it was expected (a) that the mother-tongue would be the medium in higher education and at the university, (b) that the importance of English in official, political and business life would be reduced, and (c) that the all India competitive examinations would not lay a premium on the knowledge of English. These expectations though not formulated explicitly and clearly were implicit in the minds of the public.

None of these expectations, however, was actually realised in fact. As a result, it was found that the students of secondary schools who had studied through the mother-tongue were severely handicapped when they joined a college or tried to prepare for any of the competitive examinations or applied for posts

of responsibility carrying good emoluments. There was a case of a boy who stood first in the S.S.C. Examination in a very big State, where about 80,000 students had appeared for the examination, but managed to secure a bare pass class in the first year examination in the college and ended up with a very ordinary college career and a good deal of frustration.

Over the years, students began to realise how their prospects in higher education, in competitive examinations and in life in general were marred because of their having been made to study through the mother-tongue which was not given a status in official and intellectual life, even within the State. The reorganisation of States on a linguistic basis did not change the situation much.

The standard of English, even as a subject of study, in the secondary school, gradually went down, yet the majority of the universities continued to use English as the sole medium. The inevitable result was that the standard of education as a whole in the universities started deteriorating rapidly, for students who were unable to follow lectures delivered in English and still less express their own thoughts in English resorted to methods of cramming on a large scale. Some attempts were made by the colleges and universities to give a special course in English to students entering a college so that

they could use it adequately as a medium. But these measures did not prove to be very helpful in the case of the majority of students.

When parents realised how their wards were the victims of an unco-ordinated language policy, the demand for the re-introduction of English as a medium of instruction in secondary schools became strong and vocal. In some States, schools which had used the mother-tongue as the medium for many years were permitted to have one or two sections with English as the medium, which was a retrograde step educationally but necessary in view of the parents' legitimate demand.

Unless the hands of the educational clock are set back and all the good effects of the progressive step of introducing the mother-tongue as the medium in secondary schools are to be undone, it would be imperative for universities to provide for the mother-tongue as a medium. This should not be a mere pious desire but a definite policy which would entail the preparation of a programme in all its details. The programme should be prepared so carefully that implementation should be possible within a period of not longer than five years. It should include the preparation of teachers for using the mother-tongue for teaching, the production of textbooks and other literature and the publication of journals of academic interest.

p.t.o.

The regional language should be a medium or the chief medium of instruction in a university but it would be necessary to continue English as a parallel medium, for the main reason that parents demand it. And parents demand it because English still continues to hold an important place in life in India in all its aspects and being an international language provides the students with opportunities for study abroad even in countries such as Germany, U.S.S.R. or Japan where English is not the language of the country but where it will provide the window on the world. It does not appear to be fair to ignore the very strong demand on the part of parents - enlightened and educated parents - who make it in the interest of the future prospects for higher study and employment opportunities for their wards. The continuance of English as the medium would also meet the needs of students coming from English medium schools, or from other regions. The demand from parents for the use of English as a medium at the university level is not likely to weaken unless English comes to occupy a less important place in official, business, political and intellectual life in India.

The use of a regional language as the chief medium or even a medium at the university stage has the following disadvantages which must be guarded against:

p.t.o.

1) Although it is true that any language can be developed as a vehicle of knowledge if the will is there on the part of the learner and the teachers and resources are available, it is necessary that there should be a fair amount of informative and scientific literature which the student will be able to study besides the textbooks. The regional languages will need some years for the development of such literature. If, therefore, the students studying through the regional language do not have access to good and upto date literature in some other language and the ability to use it with facility and ease, their knowledge of their special subject will be extremely limited. English provides a key to the wealth of scientific and informative literature and because of our educational history it is suited best to be used for this purpose.

2) The use of different regional languages as the media in different universities is likely to create barriers among academic people or the intelligentsia in general and come in the way of intellectual inter-communication. For many years English has acted as the unifying element and has brought scholars and university teachers together to discuss matters pertaining to their special subjects. There has been a healthy inter-change of ideas on an increasing scale through all India Conferences and through journals and publications. This growth is likely to be stultified if regional languages are used as media at the university level.

3) It is likely to restrict the academic mobility of students and teachers. Recruitment of staff may have to be restricted within the State since persons knowing the regional language well will be required as lecturers.

4) Though the use of a regional language will bring the classes and masses together within a State and help the universities in the State to serve the community at large, it is likely to come in the way of national integration, making inter-communication among students and persons from different regions difficult.

To avoid these disadvantages several measures will be necessary when a university decides to adopt a regional language as the chief medium. These measures will have to be adopted at the secondary stage as well as at the university stage. These can be summarised as follows:-

- (a) A programme of intensive and thorough teaching and learning of English at the secondary school level to develop the reading ability and the power of comprehension which cannot be done unless expression is also developed to some extent. It will be possible to achieve this object if English is studied for a period of six or seven years at the school stage provided that teachers who teach English have a good command over English and are trained in the methods of teaching with the new graded material.
- (b) A similar programme of intensive study of English at the university level to enable students to read, with facility and understanding books and articles of an informative value.
- (c) A carefully worked out programme of supplementary reading in English on the subject of specialisation, followed by assignments and tutorials based on such reading.

- (d) A programme for the sound study of Hindi as a language with similar objectives.
- (e) Lectures in English and Hindi by scholars and eminent persons on topics connected with the subjects of specialisation.

This last measure will make academic mobility possible from State to State. If English continues to be a parallel medium it will be possible to recruit teachers from outside the State and they can take part in general series of lectures, specially arranged from time to time.

An objection to the study of a number of languages is that the knowledge content gets impoverished. This can be avoided if some subject matter such as current problems in India and abroad, and social, economic and scientific developments in the world, which should be part of general education, are studied through Hindi and English. This would mean that the books to be used in Hindi and English would have to be prepared carefully so that their subject matter enriches the knowledge content of the students and does not involve unnecessary repetition or overlapping.

For such students as will be using English as a medium it should be compulsory to study Hindi and the regional language.

It would be possible to arrange during the academic year intellectual activities such as debates and symposia in all the three languages which are studied in the university.

For research and postgraduate work, specially in subjects like science, it will probably be necessary to use English. It will be possible even for one who has used the regional language as the medium at the under-graduate stage to be able to use English at this level because of the thorough study of English undertaken at the university level and opportunities provided for reading English works. In subjects like the Indian classical and modern languages and in certain aspects of sociology, economics and psychology where the social environment is important, the regional languages could be used even for research. To gain an all India recognition for research carried out in the regional language some agency will have to be set up to translate or summarise the main findings of such research.

It must be remembered that in the smaller and less developed States, there is some opposition to the use of regional languages as media at the university level because of the paucity of employment opportunities for educated people, within the States. In the smaller States those opportunities being limited, a large number of educated persons have to seek employment outside the State and a good command over English helps in securing such employment. Possibly it is for this reason/that the experiment of introducing Tamil as a medium in colleges in selected areas failed in the State of Madras. The response from the students was very inadequate

and not only was it not possible to extend the use of Tamil but it had even to be curtailed. Yet in the larger interest of the nation with a view to bringing the classes and masses together and developing the regional languages and their literature, it is necessary that universities should adopt a programme of introducing the language of the region concerned as a medium. It is equally necessary that there should be a sense of urgency attached to the programme of adoption of the regional language as the medium of instruction. Universities should plan a phased programme for the gradual introduction of the regional language as a medium and should give this measure a sufficient period of trial. The response in the beginning is likely to be very meagre in many States, but if within a period of 10 or 15 years there is a change in the place accorded to English in life in general in India, the universities will find that the period of preparation was well worth the trouble, for it will naturally bring about the adjustment that will be necessary to meet such changes.

S. Panandikar
Member - Education
Commission.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

Subject:- Introduction of compulsory N.C.C. in Colleges and Universities.

One of the major problems which the Education Commission will have to consider is the introduction of compulsory N.C.C. in all Universities and Colleges.

The following issues have been raised in this context:-

1. Is there any utility in having N.C.C. at the school stage? There is a strong section of opinion that the N.C.C. should begin only at the college stage.

2. Should N.C.C. at the collegiate stage be compulsory or voluntary? There is a strong section of opinion that the N.C.C. training should be deepened and made more intensive - this can only be done on a voluntary basis - so that we obtain much better results for the amount spent.

3. The expenditure incurred on N.C.C. is about Rs.160 per student per year at present. This is about half of the total expenditure incurred on the entire education of a student at the collegiate stage. It is, therefore, argued that this amount could be much better utilised for other purposes or that the supposed results of the N.C.C. could be secured with a much smaller expenditure of money on other programmes.

4. This problem was considered by the Kunzru Committee. The majority of the Committee recommended that the Junior N.C.C. may be retained in schools and that, at the college stage, N.C.C. should receive the fullest measure of support and encouragement. In a minute of dissent to the Report, however, Shri G.D. Sondhi, put forward his view that the N.C.C. was not

really delivering the goods, that the tall claims made by it were not borne out by facts, that it was disrupting the unity of the educational process, and that it was a very costly and wasteful expenditure. As an alternative, he made the following suggestions:-

1. Recruitment to N.C.C. must be voluntary.
2. N.C.C. training should begin at the college stage and should be abolished in the schools. The schools should busy themselves with providing the wide, general basis for all types of professional training.
3. The number of college cadets must be drastically reduced, so that the training is given to worthwhile stuff only.
4. The training must be much improved in quality.
5. The present system of teacher-officers must be given up. They have not enough training to impart training to cadets.
6. The incursion of the present type of N.C.C. Directorate into education is disruptive of the integrity of Education and destructive of the dignity and authority of heads of institutions.
7. The N.C.C. Directorate must be replaced by the American system of the training officer being made a regular member of the staff of a university. This will do away with dichotomy in education.
8. Scouting must be a pre-condition for admission to N.C.C. and it must be extensively encouraged. Government must give some crores to Scouting instead of a few lakhs of rupees.
9. Hobbies, sports and craft-work and machine-work must be encouraged in schools, and some of the crores now spent on N.C.C. work, must be devoted to the setting up of workshop and electronics training.
10. A.C.C. and Junior N.C.C. should be abolished. These merely give military drill and pretend to train in civic virtues through a militarised staff. Most of their programme can be, and should be incorporated into the programme of education.

- 11) The claim of N.C.C. to impart discipline leadership, and the moral virtue is mostly bogus. At best it can give a military type of discipline. And such a discipline is detrimental to democratic life.
- 12) If better prepared students are wanted for the defence Services, then let more Sainik Schools be set up. Military training in them will be part and parcel of the whole system of education and not a super-imposed one.
- 13) What is immensely more needed is a firm foundation of character not through military training but through good education.

2. The matter is placed before the Commission for a preliminary discussion. I suggest that the Commission should meet Shri G.D. Sondhi and discuss the matter with him. Later on, it should also meet Major-General Virendra Singh for a further discussion. The issues involved would get clarified in these two discussions and we may then come to some tentative conclusion.

J.P. Naik
Member-Secretary
6.2.1965

P.S. to Chairman
All Members of Education Commission.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

In the course of discussions with Prof. Alexandrov on 20-1-1965, the following points, amongst others, were made:-

1) It was desirable to provide general education for all students at the school level.

2) The University of Leningrad is interested in raising standards at the school level both for the sake of the schools and in its own interest. It was also desirable that, in doing so, care should be given to the needs of the ordinary students.

3) The University insisted on drawing the most talented students to its roll.

4) Scientific education was greatly stressed in schools and competitions were held on a regional and local basis in order to pick out some of the most promising students in sciences and mathematics as well as certain other subjects. (Prof. Thomas explained that there was a similar practice in France also).

5) Evening schools had been established in some centres where young students of mathematics went voluntarily in order to explore and develop their special interests in the subject.

6) Broadly, the number of students in each subject offered at the University was fixed in the State Plan and the number of students on the science side (excluding engineering and other professional courses) was about twice those in the Humanities.

7) Each student has an opportunity of choosing his own particular faculty which provides training in his special field as well as in the related subjects selected by him. In this way, the students take both compulsory as well as optional subjects.

8) Selected colleges in India could be made responsible in association with the Centres of Advanced Study to train good mathematicians and other scientists to the highest possible level.

9) Every teacher is expected to carry on research and become something of a creative specialist in his field, permeated by the spirit of science. No teacher can become a Reader unless he has reputable scientific publications to his credit and a Professor has to be a doctor which is a very high degree given for work of original and outstanding merit.

10) Any position in the University is given initially for a period of five years and, if a person is not good enough during that period, his contract is not renewed.

11) The Chairman of Departments normally visit and observe the work of the lecturers and junior teachers and give advice to them in the organisation of their courses.

12) The universities, generally, conduct three kinds of courses: (a) basic courses; (b) evening courses, and (c) correspondence courses. T.V. is, sometimes, used in correspondence courses but audio-visual aids are not used as widely as in

some other countries. Correspondence courses have been found most useful where there is relationship between the work that the students do from day to day and the courses that they have selected.

Examinations are held after each term in one or more subjects and a final State Examination is held at the end of five years. A dissertation is also accepted in some of the subjects in place of an examination and unsatisfactory students are eliminated at various stages from time to time.

13) So far as the medium of instruction is concerned, the basic courses are given in the various State languages and the higher courses are usually in Russian which everyone knows. The medium of the examination often depends on the language of the teacher concerned.

K.G.Saiyidain
29-1-1965

Item No. 6
6th Meeting

No.F.18/5/64-Edn
Government of India
Planning Commission

New Delhi, the 16th January, 1965.

From

Shri D.P. Nayar,
Chief (Education),

To

All Education Secretaries,
State Governments/Union Territories.

Subject:- Guide Lines regarding educational schemes
in the Fourth Plan.

Sir,

I am directed to forward herewith the guide lines for the formulation of the Fourth Five Year Plan schemes in the Education Sector. The Education Ministry have been consulted and they agree to the issue of these guide lines. The State Governments are requested to follow the suggestions contained in the note enclosed to the fullest extent possible. If there is any difficulty encountered or departure envisaged, the Planning Commission may kindly be intimated.

Yours faithfully,

Sd/-

(D.P. NAYAR)
Chief (Education)

Copy to:

- (i) Planning Secretaries/)
Development Commissioners) of all State
- (ii) D.P.Is/Directors of Education) Governments/
and Directors of Technical) Union
Education) Territories.
- (iii) Ministry of Education

PLANNING COMMISSION
EDUCATION DIVISION

.....

Educational Programmes - Guide Lines for the Fourth Plan.

The guide lines have emerged from the work of the Central Working Groups on General Education, Technical Education and Cultural Programmes followed by detailed discussions on the needs and purposes of a national system of education between the Ministry of Education and the Planning Commission. The States will no doubt modify them in the light of their own local conditions. They are intended only to indicate the broad direction of our future development in the light of which the State Governments are requested to examine their schemes and programmes so that they fit into a national pattern consistent with and organically related to overall economic and social development.

I

APPROACH TO THE FOURTH PLAN - PRIORITIES

Education should be effectively linked with economic development. The emphasis on economic aspects is called for because they have been comparatively neglected so far and also because of their great importance to a developing economy before it has reached the "take off" stage. Highest priority should, therefore, be given to training and development aspect at all stages of education. The right attitude to work and manual work should be developed from the primary stage itself. At the secondary stage the aim should be to give vocational education of a terminal character to as large a number of students as possible. Science today is at the basis of all production processes. It is also necessary for freeing people from superstitions and creating an attitude of rationality which is necessary for economic

and social growth. Therefore, the teaching of science should receive increasing emphasis beginning with nature study right at the primary stage. By the middle and specially the secondary stage the emphasis should increase considerably. At the post-matric and university stage effort should be made to divert more and more people to vocational subjects and increase the emphasis on science and post-graduate studies. The extension and improvement of adult education programmes, apart from other considerations, are essential for improving agricultural production and effective functioning of Panchayats and cooperatives with which adult education should be very carefully and effectively linked. At the elementary stage the emphasis has also to be on expansion of facilities to fulfil the Directive of the Constitution. A determined bid should be made to improve quality at all levels with a view to increasing return from investment in education. Emphasis should be laid on the training of teachers and linking the improvement in their salaries and conditions of service to upgrading their qualifications; on improving the library and laboratory facilities; on increasing and improving book production and on intensifying research in curricula and methods of teaching. Attempts should be made to increasingly secure the ends of social justice by (1) adding to the number of merit-cum-means scholarships and loans, (2) giving greater attention to rural areas, (3) to the education of girls and (4) to the education of scheduled castes and scheduled tribes. The technology of education should be improved so as to secure the same results at cheaper costs. These consist of emphasis on large sized institutions, part-time and correspondence courses, cheaper buildings etc. It should be an important strategy of the Plan to mobilise local resources for midday meals, school buildings, school

improvement programmes etc. and close relationship should be established between the school and the community.

II

PROGRAMMES AND POLICIES

Elementary Education

(i) It has not been possible to fulfil the Directive of the Constitution in regard to education of children upto the age of 14 so far. Considerable progress, however, in this regard has been made and it is hoped to reach this target of universal and free education for all children up to the age of 14 by 1981.

(ii) Immediate attention should be paid to the elimination of the large wastage and stagnation continuing at this stage through greater integration of work in the schools and among the parents, especially in classes I and II and in regard to the care of the pre-school child; through more effective control of admission in class I so that all the children join the class about the same time; through the provision of midday meals; through such programmes as free textbooks and free clothing to needy children; and through more effective teaching. As however, a large number of students drop out because of the poverty of their parents part-time education will need to be organised on a large scale.

(iii) The fulfilment of the Directive of the Constitution will largely depend upon the rapid increase in the enrolment of girls in primary and middle schools. To overcome the special difficulties which handicap the more rapid expansion of education for girls, adequate emphasis should be placed on building of teachers' quarters, special allowance for women teachers working

in rural areas, appointment of school mothers, organisation of condensed courses for adult women etc. These programmes are necessary to augment the supply of women teachers for service in rural areas.

(iv) During the Fourth Plan we should improve the existing senior basic schools and give a development and work-bias to the remaining middle schools, reorganise with a view to making them not only vehicles of instruction but also creators and stimulators of the right attitudes to work, environment and community. For this purpose, suitable programmes of craft teacher training should be undertaken.

(v) The teaching of general science should be introduced in all schools from the lowest class and arrangements should be made for teaching that subject well by providing schools with adequate laboratory facilities and retraining of teachers through short-term courses in the teaching of science.

(vi) The emphasis on the qualitative and quantitative aspect of the training of teachers should be considerably increased during the Fourth Plan.

Much of this expansion should be achieved through increasing to the optimum level, the strength of existing institutions. Correspondence courses should also be introduced at least to clear the backlog of untrained teachers.

(vii) In regard to midday meals, it is suggested that the hard core of the programme, in the form of grain, vegetables and oils etc. should be provided by the local community and, to a limited extent had only wherever possible, through kitchen gardening activities of the children in schools.

(viii) Every attempt should be made to secure public cooperation not only in the matter of school meals for children but also in regard to school equipment, repair of school

buildings, etc.

Secondary Education

(i) Correspondence courses should be started to take care of at least a part of the students wishing to continue their studies.

(ii) As the middle level leadership in various walks of life has to be trained through secondary schools and also due to the fact that aptitudes of students manifest themselves during this age, secondary education has to be highly diversified. The present stage of our economy and the present employment situation further require that the large majority of our students should enter life at the end of the secondary stage. It is, therefore, essential that the vocational courses provided should be of a terminal character. The major emphasis in this regard will have to be on provision of agricultural courses, which will send boys back to the land, better aware of new farming practices and of the new opportunities governmental assistance opens out to them. It is also necessary to introduce vocational guidance in the schools and, where necessary, also educational counselling.

(iii) As far as possible additional facilities at the secondary stage should be provided by expanding the size of existing schools. Roughly it has been suggested that $\frac{1}{4}$ th of additional enrolment should be accommodated in existing schools.

(iv) In the States, where the programme of conversion of high schools into higher secondary schools has gone ahead in a substantial way, the programmes should be carried out with utmost expedition in order to avoid confusion. In the other States, attempts should be made to strengthen and improve the quality of education in the last two years of the high schools and this should

be treated at par with the scheme of conversion of high schools into higher secondary schools.

(v) In view of the difficulties faced by the experiment of multipurpose schools of the present type, it is proposed to reorganise and strengthen these schools by making the courses in the practical streams in such schools terminal in character and by providing further expansion only on the re-organised basis.

(vi) The training facilities at the secondary stage will need to be expanded, as far as possible through the expansion of existing institutions, Correspondence courses should be started to clear the backlog of untrained teachers.

(vii) All existing secondary schools should be provided adequate science equipment to bring them on par with some of the good institutions. Before drawing up their programmes, however, the States may carry out quick evaluation of the existing situation so that the programmes are drawn up on effective lines.

(viii) Programmes should be drawn up to improve the quality of schools in general and of certain selected schools in particular. Admission of poor but meritorious students to the latter should be ensured through a system of freeships and scholarships.

University Stage

(i) More emphasis should be placed on the provision for arts and commerce courses through evening colleges and correspondence courses with day colleges gradually specialising in honours and post-graduate courses, as also science courses. Restrictive admission should ensure that only those go in for higher education, who can benefit by it.

(ii) The affiliated colleges which are responsible for 85% of the enrolment at the graduate stage. 45% at the post-graduate and 15% at the research level, should be adequately strengthened.

(iii) At the post-graduate stage while the enrolment needs to be expanded in regard to science, the main problem on the case of M.As and M.Coms. is really to produce first or high second class post-graduates in larger numbers.

(iv) The proportion of science students to the total enrolment should be raised from 40% by the end of the Third Plan to 50% by the end of the Fourth Plan.

(v) To consolidate the present position of existing universities and to secure the most effective utilisation of scarce resources, new universities should not be established during the Fourth Plan. Instead university centres should be set up, each within a complex of colleges with about 10,000 enrolment, where facilities for academic work of university standard are made available in regard to library, laboratory and some professors.

Scholarships

There should a massive programme of loan scholarships in the Fourth Plan to encourage meritorious but brilliant students to pursue higher education. There would also be some outright grant scholarships but these will be very limited in number. Encouragement of talent is required not only on grounds of social justice (in the case of poor students) but as a national investment with potentialities of very high return. Emphasis should be laid on loan scholarships in place of outright grants, so that in course of time

a revolving fund is created. The repayment of loans awarded to students should be on easy instalments spread over a period of years, commencing after a given period subsequent to the scholars getting employed.

Social Education

(i) It has been visualised that there should be increasing public cooperation in the specific area of making adults literate (on the lines of the Gram Shikshan Mohim) which would be supplemented by intensive work through evening/night classes and adult literacy centres schools as well as a massive government programme of production of books and literature and the provision of libraries and reading rooms, so that the results of literacy are retained and there is no relapse into illiteracy.

(ii) As far as possible, each district should have a good library which would cater to the needs of adults, children, women, students, etc. This library should have an effective circulating section to cater to the needs of blocks and villages.

(iii) The financial and administrative responsibility for social education should rest with the Departments of Education and necessary schemes and provisions should accordingly be made in the Education Sector of the Plan.

Technical Education.

(i) Technical education has to be quantitatively adjusted to meet the manpower requirements of the economy.

At the same time, maintenance of proper standards and qualitative improvement of institutions and courses are to be ensured. The rapid expansion during the last 16-17 years has resulted in the dilution of quality and the educational system is showing signs of stress and strain in the form of shortage of teaching staff and equipment and in the larger number of failures at the university examinations. Qualitative improvement therefore should be accorded high priority in the Fourth Plan proposals.

(ii) In providing additional facilities for technical education during the Fourth Plan to meet the estimated demand in the Fifth Plan part-time and correspondence courses should be introduced on a progressively increasing scale. To improve the quality of technical education high priority should be accorded to the following schemes:

(a) advance recruitment and training of teachers and improvement of their service conditions and prospects, including (i) a Central Pool of Engineering Teachers with a cadre strength of 500; (ii) additional fellowships for fresh graduates to be trained for teaching posts in technical institutions; (iii) revision of staff structure in engineering colleges with a larger number of posts at senior level and post-graduate fellowships for serving teachers for advanced studies and refresher courses; and (iv) staff quarters for 15% of teachers in engineering colleges and polytechnics;

(b) increased hostel facilities to students so as to cover 50% of the students, on an average, during the Fourth Plan;

(c) extension of loan scholarships including merit-cum-means scholarship to 20% of enrolment for technical studies;

(d) continuous research into and improvement of standards, including curriculum development, laboratory project work and summer schools; and

(e) encouraging technical institutions to undertake developmental activities in regard to design and testing of equipment and manufacture of prototypes.

(iii) It is considered necessary to expand the size of technical institutions for full-time courses to an ultimate admission capacity of 500 students per year. New institutions should be established only after the possible expansion of existing institutions has been fully taken account of.

(iv) The programme of Junior Technical Schools is being reviewed and the States will be informed as soon as decisions have been taken. In the meantime the States may indicate to what extent they consider it necessary to provide for this item in their plan.

Languages

In view of the importance of languages as a fundamental factor in national building, it is necessary to have a bold and imaginative programme for the development of various Indian Languages. This question may have to be discussed with the States either individually or otherwise as a special programme.

Physical Education

Sports and physical education in villages should be encouraged on a priority basis not only from the point of view of providing equal opportunities to all but also to tap our finest talent in these fields. For this purpose, it would be desirable to give sports equipment to the Panchayat Samitis and other local bodies who should also find some portion of expenditure from their own resources.

(i) In order to make physical education facilities available to as large a number of institutions as possible it is suggested that for schools in big cities there should be well established Gymnasias and Akharas and that they should become a part of the educational system.

Educational Research and Training

Regional councils of research and training should be set up during the Fourth Plan in areas where the regional colleges of education have been established so that these could act as counterpart to the National Council at the Centre.

(ii) The provision for development of educational research should receive greater emphasis.

Educational Administration

It is for consideration whether provision may not be made for the appointment of technical staff for supervision and guidance according to specialities like science, language teaching, mathematics, for strengthening the intermediate offices between the State Directorate and the District so that more and more powers are delegated by the Directorates; for upgrading and strengthening of district organisations for discharging their

functions effectively in regard to collection of data, planning and development of education. It may become necessary to have a special inquiry made into this question before final decisions are arrived at on the nature and extent of the strengthening that should be effected in educational administration.

III

ADVANCE ACTION

The States should carefully consider their Fourth Five Year Plan proposals and draw up such advance action programmes as they consider necessary for effective launching of their Fourth Plan. Such programmes will consist largely of training programmes, surveys and certain pilot projects. The Ministry of Education in consultation with the Planning Commission has already launched some programmes (list enclosed) on a 100% basis. The States can take advantage of these programmes and include such others in addition, in their 1965-66 Plan proposals, which they regard as essential for their Fourth Plan.

IV

STATISTICAL FRAMEWORK

The States may use the CSO's projected estimates of population of the Central Statistical Organisation for their projections. The physical targets may be compiled in the proformae enclosed. This form is the same in which States have been sending returns to the Planning Commission for some years now.

List of advance action programmes under Education

A. General Education

1. Elementary Education

- i. Creation of additional training places.
- ii. Correspondence courses for training of teachers
- iii. Acceleration of girls' education.

2. Secondary Education

- i. Creation of additional training places.
- ii. Correspondence courses for training of teachers
- iii. Expansion of training capacity in Regional Colleges.
- iv. Arrangements for the manufacture of scientific equipment.
- v. Training of library personnel.
- vi. Training for vocational courses.
- vii. Scheme of correspondence courses.

3. University Education

Correspondence courses

4. Social Education, including pilot projects for adult literacy

5. Other Programmes

- i. All India Education Survey
- ii. Publication of books and literature for libraries.
- iii. Strengthening of educational administration.
- iv. Development of Hindi and other Indian languages.

B. Technical Education

Training of polytechnic teachers.

Education - Selected Physical Targets in the
Fourth Five Year Plan - Institutions.

Item	Position in 1960- 61	Position in 1965- 66. (Estimated)	Position in 1970- 71 (Targets)	**Additional targets 1966-71 (Col.4-Col.3 5)
1	2	3	4	5

1. Primary Schools

- i. Total
- ii. Junior Basic

2. Middle Schools

- i. Total
- ii. Senior Basic

3. High/Higher Secondary/Multipurpose Schools

- i. Total (ii+iii+iv)
- ii. High Schools @
- iii. Higher Secondary Schools*
- iv. Multipurpose Schools
 - a) Total (b + c)
 - b) High School Type
 - c) Higher Secondary type
- v. High/Higher Secondary/
Multipurpose Schools
with science of elective
standard.
 - a) High
 - b) Higher Secondary
 - c) Multipurpose

4. Colleges for General Education
(Arts, Science and Commerce)

- i) Total number of colleges
(ii + iii + iv)
- ii. Post-Graduate colleges
 - a) With three year
degree course
 - b) Others
- iii. Degree Colleges
 - a) With three year
degree course
 - b) Others.
- iv. Intermediate Colleges
 - a) Independent
 - b) With School classes

@High Schools and Higher Secondary Schools should not include Multipurpose Schools.

*Only such institutions should be included under Higher Secondary Schools which lead to the Higher Secondary Certificate of the State Board/University.

**In case the institutions have already been started and only additional classes are proposed to be added in 1966-71 such institutions need not be shown here under.

Education - Selected Physical Targets in the
Fourth Five Year Plan - Enrolment

Item	Position in 1960- 61	Position in 1965- 66	Position in 1970- 71 (Targ- ets)	Additional targets proposed (1966-61) Col.4- Col.3)	RE MA RK S
1	2	3	4	5	
1. School Stage @					
i. Classes I-V					
Total					
Boys					
Girls					
ii. Classes VI-VIII					
Total					
Boys					
Girls					
iii. Classes IX-XI**					
Total					
Boys					
Girls					
2. <u>University Stage</u>					
(Arts, Science & Commerce)					
i. Pre-University class					
a) Total					
b) Science					
ii. <u>Intermediate Stage</u>					
A. First Year class					
a) Total					
b) Science					
B. Second Year class					
a) Total					
b) Science					
iii. Degree Stage					
a) Total					
b) Science					
iv. Post-Graduate Stage					
a) Total					
b) Science					

@For giving enrolment figures for classes I-V, VI-VIII and IX-XI, the pattern followed in sending similar information annually to the Central Ministry of Education (Statistical Section) may be strictly adhered to. The enrolment figures should be given strictly on the basis of class groups indicated here, irrespective of the fact whether a particular class forms part of primary middle or high/higher secondary stage of education in the State. The object of asking the information regarding enrolment by class-groups is to assess, on a uniform basis, the availability of educational facilities existing/planned for children of age-groups 6-11, 11-14 and 14-17 in different States and in the country as a whole.

** In case of a State, where there is no XI Class at the school stage, enrolment may be given only for classes IX and X and the fact may be noted in the "remarks" column.

Education - Selected Physical Targets in the
Fourth Five Year Plan - Teachers

Item	Position in 1960- 61	Position in 1965- 66 (Estimated)	Position in 1970- 71 (Targets)	Additional targets 1966-71 (Col.4-Col.3)
1	2	3	4	5
A. <u>TEACHER TRAINING INSTITUTIONS</u>				
1. <u>Teachers' Training Schools</u>				
i. Total@				
ii. Basic				
iii. Elementary teachers training units attached to other institutions.				
2. <u>Teachers' Training Colleges</u>				
i. Total@				
ii. Basic				
iii. Secondary Teachers Training departments attached to Arts/Science Colleges and Universities.				
B. <u>ENROLMENT IN TRAINING INSTITUTIONS</u>				
1. <u>Teachers' Training Schools</u> (including training classes attached to secondary schools/ colleges- school level)				
i. Total				
ii. Basic				
2. <u>Teachers' Training Colleges</u> (including training classes attached to colleges/university departments - college level)				
i. Total				
ii. Basic				
C. <u>Number of Teachers</u>				
1. <u>Primary Schools</u>				
i. Total				
ii. Trained				
iii. Untrained.				
2. <u>Middle Schools</u>				
i. Total				
ii. Trained				
iii. Untrained				
3. <u>High & Higher Secondary Schools</u>				
i. Total				
ii. Trained				
iii. Untrained				

@Figures at items 1(iii)/2(iii) are not to be included.

EDUCATION COMMISSION
GOVERNMENT OF INDIA

.....
A note on the Education system.

by Mr. Jean Thomas
.....

A reform of education in France introduced in 1959, has deeply modified the pattern of school education, particularly at the secondary level, i.e. from ages 11 to 17. As a result of experience, since certain further refinements have been made and the reform is still at an experimental stage and has not yet reached its final form. However, no substantial changes are to be expected.

The 1959 reform was based on two main principles:

a) the raising of the compulsory leaving age by two additional years (from 14 to 16), as from October 1967.

b) Guidance in school - It was recognized that the extension of compulsory schooling would have little meaning if education was not adapted as much as possible to the tastes and abilities of every student as well as to the economic needs of the country and more especially to the manpower requirements of the national Plan (Four Year Plan). As an additional objective, the need for the further development, both in quantitative and qualitative forms, of technical and vocational education was stressed.

At present, the general pattern of French education, which is free at all levels, is as follows:

Pre-school education (not compulsory) from ages 2 to 5, in nursery schools or in infant departments of primary schools.

Primary education, of five years duration from ages 5 to 10 (i.e. classes 1 to 5) is common for all children and covers the teaching of French, reading and writing, moral and civic education, arithmetic, history and geography (more particularly of France), drawing, singing, manual training,

and physical education.

Lower secondary education - After completion of primary education all children enter the four years of lower secondary education (also named as the first cycle of secondary education), grades 6 to 9, i.e. from ages 11 to 14. But there is at this stage a first diversification, according to children abilities.

This first selection is controlled in each "department" (i.e. territorial district) by a committee consisting of an inspector of primary education, some teachers, a guidance adviser, a school medical inspector and representatives of parents associations. The selection is made through an examination of children's school records (i.e. marks and remarks) or, in the case of students coming from private schools and of students whose records don't show sufficient evidence, after a written examination.

A - Students who are considered as fitted for the normal course have to choose, after a probationary period of three months, one of the two following sections, whose syllabuses are common, including one modern foreign language, but differ as follows:

- a) the classical section, with the addition of Latin (and possibly Greek as from grade 8),
- b) the modern section, without Latin but an additional modern language.

B - Students who are not considered as fitted for the above courses, join a special course consisting of two years (grades 6, 7) of "transition classes" followed by two years with a more practical bias intended as an introduction to later vocational training. After completion of compulsory schooling, they receive a diploma of compulsory schooling.

Observation and guidance. The closest contact is maintained between these three parallel courses (classical, modern and practical) which are run, whenever possible in the same institutions (called "colleges of secondary education") and under the same supervision, in order to facilitate, at any stage, transfers from one course to another.

For this reason, the first cycle is planned as a cycle of observation and guidance. A complete school record has to be maintained for every student with both marks and remarks. Records and abilities of students are discussed at regular intervals by a class council, consisting of teachers concerned, under the direction of a principal teacher and with the assistance of a guidance adviser. Special classes, called "adaptation classes" can accept, at grades 8 and 9, students who could not be admitted in previous years or for whom a new orientation has been made necessary. No guidance advise is compulsory. Families may choose a different course for their children, but in this case students must take aptitude tests, the results of which are binding.

Higher Secondary education.

After completion of lower secondary education (after grade 9) there is a second and more important diversification. Students may choose, in accordance with their tested aptitudes, one of the two existing courses:

a) the short course of two years and (b) the long course of three years.

A) The short course (grades 10 and 11, ages 15 and 16+) has two different sections:

a) general education with some vocational training, leading at the age of 16 to a certificate of general education.

b) vocational education, consisting of general education with a variety of specialized vocational training, leading to a certificate of vocational aptitude (with a large variety of specializations) or a diploma of technical assistant. This course is planned for the training of skilled workers, technical assistants or junior employees in public administration and private enterprise.

B - The long course (grades 10, 11 and 12, ages 15, 16, 17+), divided in three different branches:

(a) General education has a common core of subjects consisting of one modern language, mathematics, ~~sciences~~, history, geography and civics, plus a number of optional disciplines, such as Latin, Greek, a second modern language, industrial techniques and economics. At the end of the terminal class (grade 12, age 17) students take a public external examination called Baccalaureat (bachelor degree), which gives access to universities, and which has five different forms depending on emphasis on Philosophy, mathematics, experimental sciences, technology or economics.

(b) technical education, whose purpose is to train technicians, leading to a diploma of technicians, which is recognized as equivalent to the "baccalaureat" for access to higher technical education.

(c) agricultural education given in secondary schools of agriculture and leading to a diploma of technicians in agriculture.

Higher Education (a very simplified scheme)

Higher Education is provided by the Universities, the National Higher Schools and Technical Institutes. A University includes four Faculties (Law and Economics, Medicine, Sciences, Letters and Human Sciences) and a number

of Institutes, such as those for Technology, Engineering, Political Sciences etc.) Access to Faculties is free for all students who are "bachelors". Institutes recruit their students amongst bachelors through competitive examinations. Faculties award degrees (licence and doctorate) as well as diplomas. Institutes award only diplomas. Students entering Faculties have to choose one of the specialized departments. National Higher Schools recruit also their students amongst bachelors through national competitive examinations at a very high level, after two or three years of preparation in special classes attached to some high secondary schools. The National Higher Schools are planned to maintain high standards in the preparation for senior positions in public administration, the Civil Service, the State body of Engineers, or in private enterprises (Engineers, Aeronautics, Telecommunications etc.)

Evening courses. Special institutions of Higher education give only evening courses for people engaged in professional work and provide for the training of technicians and engineers. Scholarships may be awarded for the most gifted of their students in order to enable them to have one or two years of full-time studies.

Teachers training-

Primary School teachers are recruited after regional competitive examination, at the bachelor's level, and trained in so-called "Ecole normales" (Normal Schools). There is a Normal School in every district; the course lasts 2 years, including both general education and professional training.

In view of the shortage of teachers faced in the past ten years has France forced to recruit, as temporary assistant-teachers, young bachelors without adequate

professional training. These assistant teachers are given an extensive in-service training and after a probationary period may, on the report of a Primary Inspector, be appointed as teachers.

Secondary School Teachers are selected, through a country-wide competitive examination, from among the students who have passed the degree of "licence" in a Faculty of letters or a Faculty of Sciences. This examination (both written and after a first selection, oral) has various sections, corresponding to the various specializations: classical letters, modern letters, philosophy, English, German, Italian, Spanish, Russian Arabic, history and geography, mathematics, physics and chemistry, biology. After the competitive examination, which usually requires two years of additional studies in Faculties after the degree of "licence", the selected candidates are grouped in regional pedagogical centres for professional training (1 year). They take a further examination, of a practical nature, and are, if accepted, awarded with the certificate of ability for teaching in secondary schools. Some who possess the "licence" but who have not passed these examinations, may be temporarily appointed as auxiliary teachers, subject to further assessment by an Inspector General.

THE PATTERN OF FRENCH EDUCATION

NATIONAL HIGHER SCHOOLS		UNIVERSITIES			AGE		
Baccalaureat		Baccalaureat or Technician's diploma			- 20		
HIGHER SECONDARY EDUCATION	LONG GENERAL COURSE (3 years)	LONG TECHNICAL COURSE (3 years)	Diploma of General Education	Technical Assis- tant's Diploma	Voca- tional Apti- tude Certi- ficate	Dip- loma of Com- pary Edu- ca- tion	- 18
			SHORT GENERAL COURSE (2 years)	SHORT VOCATIONAL COURSE (2 years)			- 17
							- 16
							- 15
LOWER SECONDARY EDUCATION (4 years)							- 14
							- 13
							- 12
							- 11
PRIMARY EDUCATION (5 years)							- 10
							- 9
							- 8
							- 7
							- 6
PRE SCHOOL EDUCATION (4 years)							- 5
							- 4
							- 3
							- 2

PERIOD OF COMPULSORY SCHOOLING

EDUCATION COMMISSION
GOVERNMENT OF INDIA

.....

A note on the condition of teachers in India -

by Mr. Jean Thomas

.....

1. It is recognized by everyone that the quality of education depends above all on that of teachers. Nothing can be done to modify curricula or syllabuses if the teachers who have the responsibility of applying them do not possess the necessary intelligence, knowledge, educational experience and professional conscience. It is also on the teacher that the value of examinations, the evaluation of the aptitudes and progress of pupils and their guidance into the studies and professions which suit their abilities and the needs of the country depends. By the example which he gives each day the teacher exercises a profound moral influence on his pupils. A good teacher multiplies the efficiency of education, a poor teacher kills it.

These truths are recognized everywhere, but their consequences are far from being recognized. Among these many consequences, we shall examine only two here. If it is true, as everyone is now convinced, that the economic and social progress of a nation depends on the education which it is capable of giving to its children, and if it is true that the quality of education depends of that of the teachers, it follows clearly that the quality of teachers influences the whole economic development of a country. The funds which a State sets aside for the recruitment and training of good teachers are therefore investments whose returns are sure. On the other hand if the greatest care is not taken to recruit and train teachers of a high intellectual, professional and moral standard, the

funds given by the state for education (the opening of new schools and universities, school buildings and equipment) run a great risk of being wasted. One may as well give up the development of education.

The second consequence is that the professional training of future teachers is compromised, or even certain to fail, if one does not succeed in attracting intelligent and devoted young people to the teaching profession. One must recognize, however, that in many countries (and here I speak from experience) young people avoid the teaching profession because of the mediocre conditions it offers: poor salaries, lack of prestige. Certain official publications have taken pleasure in vaunting the nobility, virtue and disinterest of those who devote themselves to teaching almost like a priesthood. Such declarations are purely hypocritical. In a modern society one cannot at the same time pretend to hold teachers in high esteem, and at the same time keep them at the bottom of the social ladder. Obviously, young people who enter teaching must know that they will never make their fortune in it, but one cannot demand either that they agree to accept eternal poverty. This is as much true in so called socialist countries as much - and even more - as it is in the so called bourgeois or liberal societies. A great number of countries (in North Africa, South America, Asia, and even in Europe) have suffered for many years from a crisis in the recruitment of teachers - both of quantity and of quality-. This world-wide crisis which paralyses the progress of education and national economics has now claimed the attention of international organizations such as Unesco and ILO which have undertaken a joint international study on the conditions of teachers with a view to addressing appropriate recommendations to governments.

2. From the documents and testimonies placed before the Education Commission, it would appear that the situation in India is particularly critical. No doubt the problem is the same for all levels of education but, because of their abnormal character, we shall only examine here the situation concerning elementary teachers, that is to say (to use international terminology) those used for primary and middle schooling. In effect it is this schooling (which corresponds in most European countries to the minimum duration of compulsory schooling, roughly from 6 to 14 years) constitutes mass education for all children whatever their conditions might be. It is this education which has in countries as different as France, the U.S.A., U.S.S.R. or Germany brought about national integration and unity. It is this education which permits the discovery of talent and assures the national economy, the human resources which it needs at all levels. It is therefore essential that this basic education has available to it teachers of a high intellectual, professional and moral level. If this condition is not fulfilled, everything else is threatened. No effort can therefore be either too difficult or too costly to realize this condition. (this

3. Let us consider the situation in India of primary school teachers. One notes first of all the variations between States of the salary of these teachers which range from 1 to 4. Such a situation can only be disastrous for the whole country, for it is difficult to see how true economic planning can be realized so long as the standard of education, and consequently technical and professional training, remain so unequal between different geographical areas. It is clear that common national standards of education, consequently salaries of

teachers must be established. If on the other hand, one takes the arithmetical average of salaries and as a point of comparison that of the highest grade, that is to say the salary of university professors, one finds that the ratio between the primary teachers' and the university professors' salaries is about one to six. Such a proportion is completely abnormal. It is quite shocking indication of the intellectual, professional and social levels attributed to these two teachers. In most countries today it is considered that the vocation of teaching does not demand less intelligence, talent or devotion whether it is concerned with the children between 6 and 10 years of age or of young people between 18 and 20. It is for this reason that the qualifications demanded and the salaries paid for the two categories of teachers are very much closer. In certain countries beginning salaries are practically comparable for primary school teachers, secondary school teachers and university lecturers. In France, where the situation is less favourable, the average salary of primary school teacher is about one third of that of a full university professor, a position rarely attained before 35 or 40 years.

4. The condition of teachers in middle schools appears to be even more shocking. It is in effect at this stage of study that pupils must acquire, complete or consolidate their basic skills: oral and written expression in the mother tongue, initiation into mathematics, the grammatical structure and basic vocabulary of foreign languages. It is also during these years of study that one can best observe the aptitudes and interest of pupils, identify the most gifted, and guide all of them along the most suitable path. The teachers for this stage must possess a

substantial knowledge of the subjects to be taught, be completely at ease in the use of teaching methods and teaching aids as well as have the necessary personal qualities.

They must already have a certain amount of specialization since the same teacher cannot successfully teach literature, mathematics and a foreign language to pupils of 12 or 13 years. One can demand comparable if not identical qualifications from a teacher of middle schools as one can from a secondary school teacher, though perhaps with a less degree of specialization. In France, however, high his qualifications, teacher can, according to need, be called upon to teach a class corresponding in India to class VIII as he could be called to teach class XI. Whereas in India the ratio between the average salary of a teacher in middle schools and that of a university professor is one to five, in France, which from this point of view is not in advance of the other European countries, it is one to two.

Perhaps it will be pointed out that in India many primary school teachers and even middle schools teachers do not possess the minimum qualifications and that in these conditions they cannot expect a remuneration as high as in other countries where they would not have the right to teach. But this is a vicious circle. If one refuses to raise salaries on the excuse that many teachers are insufficiently qualified one will never succeed in attracting the best people and the general level will remain too low. This vicious circle must be broken and the only way of doing it is to raise simultaneously the qualifications demanded and the salaries offered.

5. In conclusion one can envisage the two following measures which would fix the goals to be achieved as early as possible:

- a) the establishment of a national scale of the qualifications demanded of teachers at each level of education. These qualifications, comprising both academic achievement and professional training, would give teachers the right to diplomas or certificates permitting them to teach in a given level of education run or assisted by the State;
- b) the simultaneous establishment of a national salary scale to be paid to teachers possessing these diplomas or certificates. This scale must be as close as possible to those practised in countries known for the quality of their education. It is clear that the realization of these goals would demand resolute action on the part of national authorities, government and the Union parliament. It is not for a foreigner to say how such actions should be taken so as to take into account the respective powers of national authorities and State authorities. It is however permissible to emphasize that throughout the world the present tendency is more and more to regard education as one of the major responsibilities of the nation, as a national enterprise and a public service even where freedom to educate is recognized and practiced.

The example of the U.S. is instructive here.

Education is very decentralized and is under the effective control of the States and local authorities. Nevertheless, national authorities are becoming increasingly interested in it and making their mark on it. In his Message to Congress on the 12th of January, 1965, regarding his ~~Report~~, for Education, President Johnson, taking up the ideas of his predecessor, did not hesitate to declare that "Education is primarily a State subject". He certainly did not mean that

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education should come under the control of the central government to the detriment of the States and the local communities, but that it was for the supreme authorities of the nation, government and Congress to fix the necessary goals and standards for the **progress**/f education throughout the country and to adopt the appropriate measures which would permit the responsible authorities to attain these goals and these standards.

Cannot the problem of the recruitment, training and status of teachers be recognized by India as a national problem requiring a national solution?

THE CONSERVATISM OF EDUCATION

Its Meaning for Planners

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(Draft)

The Conservation of Education

Economist and Educator

A. New Partnership

The need to advise emergent countries on the planning of their education systems has brought together two professions that, until recently, have eyed each other with suspicion from afar, as befitted the representatives (according to choice) of Mammon and of God, of "hard" and of "soft" social philosophies. For the most part, the economist and the educator have hitherto shared neither basic assumptions for immediate aims, neither their vocabularies nor, with the exception of some statistical method, their techniques. Now, with little practical experience on working together on even simple tasks, they find themselves joined in a partnership to attack one of the most complicated of all social problems, the planning of a country's whole education system as an integral part of its economy.

Up to now the partnership has worked unexpectedly smoothly, due in part to the economic sophistication of the small group of educators directly involved and in part to the fact that the majority of educators are still either unaware of the invasion of their territory by the economists or overawed by their statistical panoply. Nevertheless, at both the practical and the theoretical levels, the cooperation, though friendly, has been relatively superficial, and the new partnership remains brittle and uneasy.

There would seem to be two reasons for this. In the first place, it has been, up to the present, a very unequal union, the predominant part being taken by the economist. This was only natural, since it is the economist who has just discovered education and not the educator who has discovered economics. It was inevitable, moreover, that problems of sheer brute numbers should be the first to emerge as planners turned their attention to developing countries; and the language and techniques of the economist were well adapted to deal with questions of quantity. It was figures and not educational theories that were needed to catch the imagination and make clear to the world the sheer magnitude of the educational problems of Asia, Africa and Latin-America, and it was only to be expected that considerations of the quality of education should play a minor part in the early meetings on the planning of education and in the three great regional conferences at Addis Abbaba, Karachi and Santiago. Despite a haunting sense of unreality in a familiar world, the educator accepted this, but experience has taught him that quality is of the very essence of most educational problems, and he will become increasingly unhappy in the new partnership unless questions of quality play a bigger part in discussions of educational planning than they have done in the past. A point arrives where the mere extension of numbers receiving education can be meaningless without an improvement in its quality; the distressing rate of pupil-wastage in many emergent countries is evidence of this. Fortunately, there are signs that both sides are becoming aware that quantity and quality are inextricably intertwined in the educational problems facing emergent countries, and, as attention is turned to the

quality of education, the educator will naturally come into his own as a full and equal member of the team, for he is the competent authority on the quality of the work in the schools.

There is a second, and perhaps more serious, barrier to the full co-operation of educator and economist in educational planning; neither has yet learned fully to trust the judgment of the other, even when he is operating within his own proper field of competence. This is not surprising. The two fields are near enough together to lack the enchantment of distance but too far apart for either profession to appreciate the technical complexities with which the other is struggling. Each sees the other's problems as simpler than they really are. Without the mutual professional confidence that comes from having worked together over a long period, the educator and the economist have managed to run on roughly parallel lines in the field of educational planning, but there is little sign as yet of the mingling of their disciplines in a joint attack on a common problem. This shows clearly when they find themselves faced with the intractable problem of a country that needs more schools to lift its economy; and a better economy to afford new schools. Neither economist nor educator can envisage a solution within the field in which he is expert, and so each turns to the other to produce the rabbit from the hat. The educator still continues secretly to believe that, if the economist really set his mind to it, he could find some hidden source of funds for a purpose so obviously essential as education. This, it will be recalled, was roughly the attitude of the Ashby Commission on Education in Nigeria. The economist, on the other hand strongly suspects that, if the educators could only drop their innate conservatism and come into the twentieth century, they could develop a new "educational technology" that would raise the productivity of the schools and produce better results with little or no rise in costs.

There is some justification from past experience for both points of view. The Ashby Report actually did get more money for education, and most educational administrators can remember occasions when, by digging in their toes, they wrung a few more dollars from an allegedly empty Treasury chest. When the economist says firmly that x million dollars is the absolute limit that a country can afford to spend on education, he is well aware that his decision is based on a series of value judgements that could be challenged on other than economic grounds. Similarly, a perspicacious economist could be relied on to find in any school system some waste of funds and some place where modern techniques merit more consideration than they are currently being given. In an administrative system dependent on checks and balances, it is right that members of the two professions should jolt each other out of a too facile acceptance of the status quo in areas near their common frontier, but there is a limit to this friendly mistrust when they are called upon to give joint advice to a country other than their own. As economist and educator move more deeply into each other's territory, a point arrives where each must be prepared to accept the other's professional judgement that a particular proposal is, or is not, feasible at a given cost and within a given time. This they will do only when they have a common understanding (if not a common acceptance) of the fundamental assumptions on which such judgements are based, and when each has a more profound appreciation than he has at present of the other's professional problems. This mutual understanding is most likely to come about as a result of years of joint work on specific problems in emergent countries, but it might still be useful for the economist and educator to explain to each other in more general terms the peculiar difficulties they face in their own fields of planning. This will not be easy, for educational planning is at that awkward stage where individual problems cannot be seen clearly for the lack of a coherent body of theory, whilst nearly all generalizations are suspect because conditions vary so greatly from country to country and from one stage of development to another.

Over the past six or seven years the economists have been much more effective than the educators in expounding their views on educational planning, and any educator who takes the trouble to master the "input-output" vocabulary and read the literature can get a fair idea of their current attitudes to such problems as the limits to educational expenditure in emergent countries and the need for improvement in the productivity of the schools. With one or two partial exceptions, I am not aware of any comparable effort by educators either to question some of the economists' assumptions or to explain the peculiar difficulties involved in the reform of an undeveloped school system. My main purpose in this paper is not to embark on a general apologia for the teaching profession but to examine briefly (and I hope not too defensively) one of the commonest criticisms made by economists - that the sheer conservatism of education systems is one of the barriers to both educational and economic progress in many emergent countries. The point is not whether education systems are conservative - no school administrator who has tried to introduce reforms could have many doubts on the question - but whether they are needlessly conservative. How far is resistance to change due to conservatism for its own sake and how far is it inherent in the very nature of teaching and learning within a school system?

The Economists' Complaint

It would be well to let the economists speak for themselves: "We would mention here two additional factors that, in our opinion, act to retard technical change in education---. First, education in general - elementary, secondary and higher - appears to be quite tradition-bound in methods of instruction and in views towards methods of instruction. In short, there are psychological barriers to change." (1)

"For this great industry, education, is basically one of our most conservative industries, not with respect to the affairs of the rest of society, but with respect to its own affairs - its curricula, its salary structures, its folk-lore. Projections such as Professor Tinbergen's have the effect of shocking us all into a recognition that perhaps we need a radical approach in education as we have been willing to take in other fields." (2)

"...one of these fallacious policy conclusions is that education is what it always has been and will always remain, that is to say, there is built-in opposition to change which reinforces the traditionalism of educational systems since one of their main purposes is, in any case, to hand on the tradition...I would feel then that one of the major tasks of the economist coming into education is to lay emphasis upon the importance of developing new techniques in education". (3)

Frederick Harbison presented this theme most strikingly in 1961, at a conference on aid to newly developing countries: "It is unquestionably true that the cost of primary education must be kept down; otherwise it will consume most of the resources which are more urgently needed for secondary and higher education... Consequently developing countries should concentrate their attention on finding new techniques of education which can be utilized effectively by large numbers of teachers who have themselves had little more than a primary education, and which can maximize the strategic services of a very small group of more highly trained personnel. The application of new teaching techniques - visual aids, programmed learning, instruction by radio and television, revised and simplified curricula and texts - offer a real challenge both to the developing countries and the assisting countries. The discovery of new techniques for primary education will be given much

more serious consideration once it is understood by politicians, planners, educators and outside experts alike that under conditions of accelerated growth it will be impossible to raise substantially either the pay or the qualifications of teachers in the near future." (4) But, he adds rather sadly, "Those who are accustomed to traditional methods of elementary education are suspicious of new techniques." Writing again, in 1964, after further experience in the field, Harbison reiterates the point with regard to "underdeveloped" and "partially developed" countries (levels I and II of his four-fold classification of stages of development): "The basic problem, then, is to find new technologies of primary education which can be utilised effectively by low-paid, poorly educated and unqualified teachers." (5)

Analysis of the Problem

However the educator may react to the more generalized criticisms, Harbison's statement raises questions that are concrete and specific enough to demand an equally specific reply. Are his suggestions for improving the quality of primary education without increasing the cost in fact feasible? If so, why are they not being applied? Neither question can be answered without a closer analysis of the meaning of "feasible". A particular technique may fail to be introduced into an area for any of several different reasons:

- (1) because the teachers do not know about it,
- (2) because the necessary equipment and materials are not available or cost too much to install or maintain,
- (3) because the pupils in the area do not respond to this particular technique,
- (4) because the technique calls for knowledge, understanding or other qualities that the bulk of the teachers in the area just do not possess,
- (5) because teachers and educational administrators are simply conservative and suspicious of new techniques.

With the exception of the first, we know little enough about any of these reasons, but it is the fourth that is most commonly overlooked. We are inclined to assume that, if a pilot project shows that selected teachers can use the technique successfully with sample classes in any area, one can safely plan for making the practice universal. Any opposition can then be attributed to the fifth of the reasons, sheer conservatism. Yet every administrator knows that it is just at this point, where any practice has to spread from the few to the many, that his real problems usually begin. Children are much more adaptable than are those who teach them. J.S. Bruner has taken as a working hypothesis "that any subject can be taught effectively in some intellectually honest form to any child." (6)

There is now some basis for his hypothesis, but, administratively speaking, the vital question is, "But can it be taught by any teacher?" As new methods percolate down from the liveliest teachers in a system to those in the average or below-average brackets, misunderstanding, incapacity and simple dreariness can do as much as straight opposition to kill the living spark on which success depends.

If, as Harbison suggests, emergent countries will have to rely on the services of a high proportion of "low-paid, poorly educated and unqualified" teachers, it is important to know if their failure to use techniques we offer them is due to the fact that they do not want to apply them or that they cannot. If mere conservatism is all we have to contend with, we should be able to devise ways of

circumventing it, but, if these new techniques call for knowledge, understanding or qualities that the average teacher does not possess, the remedy may be tedious and expensive, involving better education, higher qualifications and consequent higher pay for the service as a whole. Hence the need for a closer analysis of the nature and causes of educational conservatism. The kind of advice we give to the government of an emergent country will depend in some measure on the degree to which we judge the conservatism of its teachers to be unjustified.

The difficulties that the educational reformer meets in an emerging country are, for the most part, an exaggerated form of those he would face in a developed country. I shall, therefore, first sketch the factors that seem to make education anywhere one of our more conservative "industries", and shall then try to explain why this conservatism tends to be more intense in underdeveloped school systems. A distinction will be drawn between the social and economic causes of conservatism on the one hand and, on the other, the professional causes that spring from the peculiar position of the teaching profession. For the sake of simplicity, the discussion of the professional factors will be confined to primary schooling.

Causes of Educational Conservatism

Social and Economic Causes of Conservatism

One must begin by admitting that education systems are, by nature, conservative. As Adam Curle has said, "Yet, in most societies for most of recorded time, education has been a reactionary force rather than a progressive one. Education, often closely associated with religion, has tended rather to hallow antiquity than to promote innovation." (7) Sometimes, after major political or social revolutions, education has been deliberately used to break ancient moulds, and frequently the mere spread of education has slowly eroded old systems of values, but most societies have been suspicious of experiments with their children's education, and none more so than those in the emergent and ex-colonial countries.

Parents in these countries often have a clear idea of what constitutes education; it is the kind of academic schooling their European rulers had, which has been handed on to them, perhaps in a watered-down form, through the schools of the missions or of the State. However unfitted it might be to the life of the primitive village or farm, this was the type of education that evidently gave the European his material superiority and that offered the local boy a hope of release from the poverty and tedium of life on the land. W.E.F. Ward wrote in 1959, "Hence the anxiety not to deviate at all from the syllabus as devised for the English pupils. Like King Wenceslas's page, our African pupils mark our footsteps and tread in them." (8) A year or two earlier, Christopher Cox, then Educational Adviser to the Secretary of State for the Colonies, said, "The general practice all over British Africa, despite its many remaining backward areas, is today increasingly one on which the Africans have set their hearts, with an impatient fervour that it is hard for us to realize, upon a complete Western education as they believe it to be." (9) Since then, independence, the spirit of nationalism, and increasing contacts with other countries have begun to modify this conception at the national and political levels, but the time has been too short for the consequent remodelling of school systems, and it is unlikely that the average parent's stereotype of a good education for his children has been greatly modified. Any change to a more realistic and practical form of education better suited to the needs of farm or factory is liable to be regarded as a subtle attempt to fob children off with something inferior.

Nor can this attitude of parents be dismissed as completely irrational in a country where the opportunities for economic advancement are geared to the conventional, academic system of education. An Asian or African peasant, whose meagre patch of ground cannot support all his sons, can scarcely be blamed for seeking for some of them the kind of schooling that will offer hope of escape from the land, and for looking askance at changes of curriculum or method that might bind them more closely to land or village that can offer them no future. This is one reason why well-intentioned schemes for giving an "agricultural bias" to primary schools have failed with such dismal regularity in most agricultural countries. Similarly, the "basic schools" of India, supported by the Government, and strengthened by the Gandhi mystique, have steadily run into parental opposition because they have found difficulty in meshing with the regular secondary schools and universities, whose examination qualifications open up new worlds to the young man in search of employment. Even when, for so many, the hope proves illusory, and a class of unemployed intellectuals results, the demand for an academic education goes on, and opportunities for technical training are shunned in many countries of Asia and Africa. Here again, the cause may lie as much in the structure of the economic and social systems as in the blindness of the individual's demand or in the conservatism of the schools. If society as a whole looks down on any form of manual labour, and if the salary, in State and other services, for a young man with the most miserable degree, is higher than the standard rate for a skilled craftsman or a competent technician, the individual is not entirely senseless who chooses the goal, however narrow, that society obviously values most highly. The schools and colleges that cling to outmoded courses and methods that help him achieve this ambition can at least claim to have the interests of their present pupils at heart and to be giving the public what it wants, even though, in the long run, the community as a whole would be better served by a very different type of institution. The general public, and, indeed the State itself, by reason of the demands they make on the schools, must often share with the educator the blame for the conservatism of the system.

The influence of the State and of local authorities on the schools does not cease with the psychological pressures they exercise on teachers or the goals they offer to young people. Lack of money can be as complete a barrier to educational reform as lack of ideas or initiative. To the outsider looking in, it may seem that many changes in classroom procedure and practice could be made with no increase in expenditure. I held the view myself until I was called upon to apply it as an educational administrator, when experience quickly taught me that almost every classroom reform costs money, though it may appear on the surface to be only a simplification of existing practice. Even if no major modifications are called for in schools building and plant, it is a rare reform that does not involve changes in textbooks and teaching aids, new teachers' guides, extensive in-service training, and the appointment of a corps of supervisors to travel around the schools to iron out misconceptions and keep up the pressure for change.

It may be that a new educational technology will some day show us how to give a better education for less money - we shall discuss the matter later - but the possibility of this has still to be demonstrated, and, in the meantime, most educational administrators would, I believe, accept as a fundamental law of their craft that good education costs more than bad. This is not to say that some expensive education may not be bad, but only that most widespread innovations in education cost money, and that lack of money may be a prime cause of the lack of innovations. Charles Benson, an economist, has explained better than an educator could the economic barriers to research and innovation in education. (10) I would merely draw attention to the "assumption of guilt" that he finds attached to public expenditure on education, a guilt that may look

more like a virtue as economists lay increasing stress on their discovery of education as an essential element in production.

Professional Causes of Conservatism - General

When one turns from the social and economic causes of conservatism to the professional causes operating within the school itself, it is convenient to begin with factors that make for conservatism in a school system at almost any level of development, before passing on to factors working with particular intensity in underdeveloped countries. We may take for granted the common conservative influences that bear on all professions, and shall concentrate on a small group of conditions, which, while not necessarily peculiar to education, do exert an unusually strong restraining pressure upon changes within the schools. They are, perhaps, five in number. Stated baldly, they all sound pretty obvious; it is only when you have tried to introduce innovations into the whole of a large school system that you see these five factors as constituting your major problem, compared with which most technical difficulties seem relatively trivial.

(1) Lack of Clear Goals

The ultimate goals of education are less clearly defined than those of most other professions. The engineer, the scientist, the doctor and the priest know better than does the teacher, where they are going; their domestic arguments are more likely to be concerned with means than with ends. This is only to be expected. Education lies so close to the conflicting faiths and desires of the community that only the politicians are less likely than the teachers to come to agreement on a common purpose for their craft. Teachers' organizations may, from time to time, arrive at agreed formulas, but the more representative the body, the more vague and general must the formulas be if they are to secure the adherence of practitioners who subscribe to very different philosophies of life. There seems no reason why men of good will should differ less on the ultimate goals of education than they do on the goals of life itself. A few - too few - adventurous souls take advantage of this uncertainty to experiment, though their range is limited by the centripetal forces in society and in the school system itself. On the other hand, the unadventurous, the stolid, the timid, the unthinking, find in a multiplicity of goals a reason - or an excuse - for sticking to tried and accepted procedures. Unsureness, as we shall see later, lies at the root of much of the conservatism of education. Boldness in practice springs from a clear view of the goal, even if the vision eventually proves illusory. Education seems fated to suffer from two extremes. In the nineteenth century and the early years of this, the accepted goals of popular education were too clear because they were too narrow, and most teachers were not free to experiment even if they wished; now they are not clear enough, and the same teachers are afraid to leave the trodden path because their goal is hidden in the mist.

(2) Understanding and Acceptance Essential

Few reforms in the content and method of teaching are of any value until they are understood and willingly accepted by the teachers who are to apply them. In every profession, admittedly, it is desirable that practitioners understand and believe in the methods they are called upon to use, but a young architect or a medical interne, working as a member of a team, may quite effectively apply techniques that run counter to his own judgment. The strength of a roof member or the efficacy of an injection will not be materially affected by the faith of the man immediately responsible. For the teacher, as for the clergyman, what he

achieves is in large measure a function of what he believes, and most administrators will admit that they have changed very little in the work of the classroom merely by issuing instructions to teachers. Understanding, of course, must precede acceptance; the travesty that can result from the mis-interpretation of a reform by a proportion of the teachers can do more to discredit it than does straight opposition.

There is no shortage of evidence of the supreme importance of the attitude of the individual teacher towards a proposed reform. Every educational reformer knows it to his sorrow, and, less directly, experimental evidence tells the same story. Reviewing the results of a large number of experiments on the efficacy of specific teaching methods, Harold F. Clark reached the conclusion that most of them had been invalidated by the fact that the "great dedication, energy, enthusiasm, and competence" of the teacher who champions a reform are liable to have more effect on his pupils' achievements than have the actual pedagogic methods under review. (11) This is not to suggest that teaching methods are irrelevant, but only that good results can be achieved by enthusiastic and able teachers using very different methods, and that the best of methods will fail in the hands of uncomprehending and uninspiring practitioners. The significance of this for educational reform is capital.

(3) Teachers the Product of the System

A third factor that makes the reform of education particularly difficult is that, to a degree that is true of no other profession, teachers are the product of the system in which they work, many of them having spent their whole lives, from the age of six, within it. They tend to embody in themselves the virtues and the defects of the system, and yet it is only through them that it can be reformed. Particularly for the less imaginative teacher, there is always a tendency, when in doubt, to regress to the teaching methods that were practised on him as a child. Even when he thinks he is adopting modern methods, the underlying pattern of a lifetime can reduce them to the familiar procedure under another name. Regression to the normal seems to be a characteristic tendency of the teaching profession, and the history of education is strewn with examples of exciting experiments that broke away from the main stream of school practice only to run away into the sand, or, after a decade or two, turn unobtrusively in the old direction. There is no call to be too pessimistic about this. Many of the deviants have eventually had a perceptible effect on the main stream of educational development, but this has never been as rapid or as dramatic as their authors had hoped.

(4) Isolation of the Teacher

The isolation of the classroom teacher also makes for the sluggish spread of new teaching methods. Of recent years, team teaching and other devices have begun to break down this isolation in some of the schools in a few highly developed countries, but the great majority of the primary school teachers in the world are shut up with their 30-60 children in a classroom where they practice their art, for the most part, unaided and unseen. (I am aware that in overcrowded schools, especially in the emergent countries, two or more classes often share a room, but this enforced propinquity, far from being of professional advantage, is usually an irritation from which teachers escape as soon as possible.) The average teacher rarely sees other practitioners teach, and, when he is seen in action himself, it is usually for brief periods by an inspector or principal, upon whose judgment of his work his own future promotion may depend. An administrator soon learns how extraordinarily difficult it is for those in final control of a large school system to know just what does go on in most of the classrooms for most of the time. One too easily imagines that new methods, launched from the centre with enthusiasm, have been

universally adopted in classrooms at the periphery, whereas, in many of them, they may have been partly or wholly ignored, misunderstood, or recast in the mould of stale practice.

(5) Range of Ability of Teachers

A final obstacle to the introduction of educational reforms is the wide variation in the effectiveness and adaptability of the teachers within any large school system. It is true that individual differences in the abilities of its members occur in every occupational group, but the problems created by these differences are peculiarly acute in a school system just because of the isolation of the classroom teacher. In a primary school, except for the principal, there is no natural hierarchy arising from the nature of the teaching duties, and a school, unlike a corporation or an administrative agency, has no place that really suits the dreary practitioner wedded to routine. Every teacher shut in a room with a class is, in one sense, as important as any other teacher in any other classroom. If his teaching is dull and uninspiring, there is little anyone can do in the short run to make good his deficiencies.

This means that the administrator, anxious to introduce a new spirit and new methods into a large primary school system, must operate through thousands of classroom teachers all performing similar duties but varying widely in their capacity for adaptation. Changes in curricula, teaching methods and organization that the best twenty per cent of the teachers will seize on with avidity will be completely beyond the capacity of the poorest twenty per cent, who will either reject the changes, or worse still, attempt methods for which they are quite unfitted or which they do not understand. External checks and controls, which are necessary to prop up the weaker teachers, will prove intolerable to the most able and vigorous members of the service eager to break new ground. Almost any reform that can be introduced will come too soon for some teachers and too late for others. The educational administrator bent on reform walks a knife-edge. This may not be so obvious in a country like the United States with decentralized control and a high minimum qualification for the teaching profession, though even here it is significant that classroom reforms have tended to spring up in small, prosperous suburban systems and to spread only slowly to the big cities. In centralized national systems, especially in underdeveloped countries where most reforms have to come from the center, the administrator's success or failure may depend on his sensitivity to the kind of demand for change that he can make on teachers at each point in a broad spectrum of ability.

As stated earlier in this paper, it would be too much to claim that any one of these five factors slowing down the process of reform in a school system is peculiar to education, but there can be few professions where they operate at such intensity, and none where they can be found in such combination and with such mutual reinforcement. For example, if teachers were not isolated, if they worked in hierarchic groups with common responsibilities, it would matter less that their range of ability is so great, that so many of them are vague as to the goals of their craft, or fail to grasp the real significance of new methods proposed to them. Again, if teachers were not so deeply conditioned by their own experience as pupils, unsureness and doubt might lead more frequently to experiment with the new rather than regression to the old. This interlocking of factors produces a pattern of resistance to change that is probably unique. It is possible that every profession has its peculiar pattern of resistance factors, and that the practitioners of each find their own the toughest. It would be idle to argue the question here, but one thing is sure, that the pattern of "resistance forces" (12) in education is complex and closely woven,

and that it merits fuller attention by all who set out to reform school systems at home, to say nothing of those who advise educators in countries other than their own.

Professional Causes of Conservatism - Underdeveloped Countries

In turning from education systems in general to those in emergent countries, we shall continue to concentrate on the strictly professional resistance forces, and shall ignore, for the moment, the barriers to reform that consultants in any field find, in varying degrees, in many of these countries. Political confusion, nepotism, administrative inefficiency, vested interests and apathy towards social reform are not unknown at any level of economic development, but they tend to look larger in underdeveloped countries if only because there are fewer resources to waste. Where they do occur, they exacerbate the resistance forces in the schools themselves, but they are not primarily the concern of this paper.

One is tempted to say that the five professional resistance forces described in the previous section are all found in an intensified form in an underdeveloped school system, but this would be an oversimplification. Their total effect is usually greater in such a system than in one more advanced, but the pattern in which they operate is different in the two cases. It would not be true, for instance, to say that the goals of primary education are seen less clearly in an emergent country. On the surface, quite the reverse often seems to be the case; because they are so narrow, they can be seen more clearly. The acquiring of a few simple skills in the mechanics of the 3 R's and the memorizing of a limited number of almost unrelated facts are goals that are nothing if not clear. Yet, even if these are the immediate aims of the classroom teacher, it would be doing him a wrong to assume that, for him or for the community he serves, they encompass all the goals of education. As Lionel Elvin (13) has pointed out, a people that has adopted a foreign school system tends to begin by making very limited demands upon it. Parents are liable to regard the village school as the place where their children will learn the "foreign" skills that will enable them to compete in a wider community where such skills are becoming increasingly necessary for the earning of a living. It is assumed that family and elders, priest or pastor, and the customs and ceremonies of the village or the tribe will inculcate the deeper values that give life its meaning. Between these values and those embedded in the foreign-born school system there may be inevitable conflict, but it need not become overt so long as the functions of the school are kept relatively superficial and clearly separate from those of the older community organizations. Any tension between the two may be intensified as soon as some "change agent" (to borrow another term from group dynamics) tries to persuade teachers to broaden their goals, to have some regard for individual differences and for the emotional life of the child, and to teach children to think and not just to memorize. (According to circumstances, the situation may be either simplified or complicated if the village school is in the hands of missionaries.) Inconsistencies between two systems of values may constitute an important factor in the resistance to change in some countries, but that is a subject for a major study in itself, and well beyond the limits of this paper. It is sufficient here to note that the teacher in an underdeveloped country, as soon as he ceases to be satisfied with the simplest of goals for his craft, may find, behind the uncertainties experienced by all teachers, the deeper cleavages between two cultures. Confused and unsure of his goals, unless he is an unusual person he will shy away from innovations that threaten to reduce still further his sense of inner security, and, if he does accept them, he will mould them as closely as possible to familiar practices.

The third of the resistance forces enumerated earlier, the fact that teachers are the products of the system in which they teach, operates with special force in most emergent countries. In some, teachers have little more than a primary school education, and a proportion of them have had no period of teacher training that could have made them even aware of teaching methods more enlightened than those to which they were themselves subjected. In such conditions, the teacher is the prisoner of his own narrow experience, and, as the years pass, will the more stubbornly resist all efforts to set him free.

The operation of the fourth and fifth of our resistance forces in underdeveloped countries is rather more complex. Because of the nature of tropical architecture and of gross overcrowding, the actual physical isolation of the teacher and his class is sometimes not as complete as it is in advanced countries, but, as stated earlier, the conditions are such that this proximity is rarely regarded as a boon. Indeed, the mere fact that two classes are within sight and sound of each other, or are jammed together in one room, may discourage a teacher from attempting new methods that involve more activity or that threaten to raise the noise-level or distract the attention of his neighbour's pupils. At the other extreme, the isolation of the village teacher in a one-teacher school may be profound in a poor agricultural country. Even in developed countries educational reforms have commonly lagged in rural areas.

The spread of ability and adaptability within the teaching service of an underdeveloped country may, or may not, be greater than in a developed one; but the deadweight of the ill-educated and untrained teachers towards the bottom of the scale hangs heavy on the shoulders of the small proportion eager for change. In a centralized system - as these usually are - curricula, textbooks, teaching methods, inspection systems and disciplinary regulations must all be adapted to the needs and the limited powers of the average and below-average teachers, and the very measures that are necessary to support and control them will constitute the main barrier to experiment by their livelier and more able colleagues. It is only a fairly sophisticated school system that can cater adequately for the individual differences of either its pupils or its teachers.

More serious than the range of ability within any one teaching service is the gap between the teachers in an emergent country, who are being urged to adopt a new teaching method and the teachers in an advanced system where the technique was developed. The reference here, needless to say, is to differences not of native ability but of general education and professional training. (14) The average primary teacher in the United States is a college graduate, professionally trained. Contrasted with this are two cases, admittedly rather extreme, in Africa. The Ashby Commission, speaking of the primary school teachers of Nigeria in 1960, reported "a staggering figure of 73 per cent with no more than a primary education to prepare the next generation," (15) and the Minister of Education of Liberia wrote, "Eighty-five per cent of our elementary school teachers are not qualified to teach in the schools." (16) The transplanting of educational practices from one of these levels to the other is a delicate process that can very easily go wrong.

This is the point at which our study of the forces resistant to change in education comes to a focus. If the emergent countries are to evolve school systems adequate to their needs over the next decade or two, most of them will have to rely heavily on technical assistance from more advanced countries. We have learnt enough about this over the past fifteen years to know that the flow of educational experience between school systems at different

levels of development is by no means as smooth as we had once hoped. We can ignore for the moment the political, administrative, and economic difficulties that were inevitable in any new venture, and concentrate on the professional resistance forces that have been the subject of this paper. As might be expected, these tend to operate with peculiar intensity on the narrow bridge that is all that the best of technical assistance programs can establish between two education systems. If we are ever to answer the question set us by Harbison, and, indeed, if we are to get the most from the money we spend on technical assistance, we must come to a better understanding of the pattern of resistance forces acting at the junction where ideas and techniques flow from one school system to another at a different level of development. This involves us in a clearer definition of what we mean by "levels", and it is difficult to take the argument further without pausing to analyse the concept of levels or stages of development as applied to education systems.

Transfer of Practices between School Systems

The need for a Theory

The economists have brought some kind of order into the mass of facts and ideas accumulated about economic development by setting up models of "levels". Rostow's five "stages-of-growth" centering on his "take-off", (17) and the four "levels of human resource development" of Harbison and Myers, (18) however they may be criticized in detail, give form and shape to an elusive complex of tendencies and fluid movements. The educator has nothing comparable to offer. Harbison and Myers, to be sure, use school and college enrolments as the indices of their levels, but they are primarily interested in them as leading to a strategy of human resource development. A quite legitimate function within this strategy is to suggest the proportions of educational expenditure that should go to primary, secondary and higher education respectively, but there is nothing in the model to indicate what changes are, in fact, possible at each level. It cannot, for example, give us any aid in dealing with the deplorable rate of pupil-wastage at the lower levels, and we have no right to expect this of a model devised for a very different purpose.

If the educator wants a model of development that will help him with the problems of quality in education that are his special concern, he must make one for himself. The fact that we have not achieved equality with the economists in discussions or educational planning is due, in no small measure, to our failure to bring to the discussions any kind of theoretical framework of our own to match the ones they have created for their purposes. Without this contribution from us the picture will become increasingly lopsided. We are quite as interested as the economist in the quantitative problems of education in emergent countries, and have every reason to be grateful for the concepts he has evolved concerning them, even when they fail to satisfy us completely. But, as we have seen, quantity in education is inseparably linked with quality, and nowhere more so than in those emergent countries where money and manpower are wasted in the schools because many of the pupils fail to achieve a level of education that is of even minimal use. So we owe it to the partnership to develop some specifically educational theories concerning the growth of education, some intellectual framework that will encompass the quality no less than the quantity of the product of the schools. As a profession, our knowledge of educational development is extensive, because we, after all, have been responsible for it, but it is discrete, individual, concrete, and scattered throughout the world. Little attempt has been made to pull

it together into a body of theory about the growth of education systems in emergent countries. However useful it may be in its present anecdotal form to teachers who can tap the reservoir of experience at the right places, it is of limited immediate value to the planner, be he educator or economist, who is concerned with broad strategy.

A hypothesis of stages or levels is the humblest form that a theory of development can take, and it may not even merit the title. It is little more than a clumsy device to enable us to use descriptive terminology in a situation where we have not yet sufficient exact information to express quantitatively the different positions on a continuous scale of development. It may be less important that the model should be fully substantiated than that it should form a basis for further questions and research. The hypothesis that follows, of stages in the growth of a primary education system, is offered as nothing more ambitious than this. Its virtues are that it is a strictly educational theory, that conclusions of considerable practical significance can be drawn from it, and that some of these can be tested out in the field.

A Hypothesis of Educational Stages

The simplest approach to this hypothesis may be to explain how it arose. From 1945 to 1960 I was more or less responsible for the educational policies of two countries that were, at the beginning of this period, more than half a century apart. The one, modern and well-developed, was in New Zealand. The other was in Western Samoa, which, in 1945, was facing educational problems in some ways similar to those of the elementary schools in the United States and New Zealand in the sixties and seventies of last century. With some surprise but no sense of shame, I found myself encouraging in Western Samoa the introduction of formal educational practices I had spent half a lifetime combatting in New Zealand.

The poorest of the Samoan schools were the "pastors" schools", run in the villages by the Samoan pastors, men with a Grade V or VI education topped off with some theological training. The sole secular task they set themselves was to teach children to read the scriptures and hymns in the vernacular and to write a simple letter. The education process consisted of little but rote memorizing, but, by some miracle of perseverance, the pastors often succeeded in their humble task. The nineteenth century dame schools at their simplest must have been something like this.

The government village schools had more form, but classes could rise to above 100 pupils, and the majority of the teachers had only a Grade IV to Grade VI education, though some had a year of teacher training in addition. Equipment was supplied on the most meagre scale, and the curriculum, while wider than that in the pastors' schools, was expressed in the vaguest terms. Inspection was not even effective enough to ensure that schools in outlying villages were open on every school day. Teaching methods were formal in the extreme, and the connection between symbols and their most elementary meanings was often lost entirely. Tables and strings of words, whose meaning remained a mystery, were frequently chanted in unison and learned by heart, at the best in the hope that their meaning would some day be revealed by repetition and at the worst in blissful ignorance that meaning had much to do with the process. Arithmetical skills such as those involved in papering a room (the lovely Samoan houses, incidentally, were elliptical and had no walls!) were learnt by heart but not necessarily understood, and history and geography were often jumbles of words that had little meaning for either child or teacher. Some teachers, who, except in the simplest situations, could not make themselves understood in English, were teaching English grammar and composition. The process of education

became impossibly slow and dreary; children who came into Grade I (sometimes at twelve or fourteen years of age) eager to learn, bogged down under the weight of meaningless repetition, and, except for the brightest, ceased to make much progress at all, even though they might stay at school into their late teens or early twenties.

An idealistic superintendent of education was trying to introduce modern ideas and methods, but these efforts had, if anything, added to the amiable confusion in the classrooms. Teachers whose practice was already formless and fumbling found "activity methods" and "individual differences" completely beyond them. Specialists in method were sent out from New Zealand to introduce new techniques, but, a year or two after they had departed, all that was left to show for their work was a few pathetic tricks and gadgets, almost bereft of meaning but proud evidence of modernity. It might be thought that a system at this "dame school" stage offered a golden opportunity for catching teachers before they had become perverted by formalistic teaching methods, while their teaching could be related simply and directly to the practical world they knew so well. But the kind of direct and meaningful teaching one finds in a good modern classroom, natural though it may seem, is really based on a complex and sophisticated idea of the learning process. The unsophisticated and untrained teacher tends to turn naturally to formal methods of teaching. The real weakness of the teaching in the Samoan schools in 1945 was that it was confusedly and inefficiently formal. It had all the defects of formalism and none of its virtues; it was formalistic in spirit without having form. There seemed no alternative but to impose more form, however much one might deplore formalism as such.

At this point a new superintendent of education was appointed, who set about establishing first of all a tight, formal system of schooling, in the hopes that something approaching good modern education might be built on it later. A detailed and authoritative syllabus of instruction was produced, and the "Teachers' Monthly Guide" set out for each class, for each day, the major lessons that must be given, and with no great latitude, the way in which they should be taught. Radio receivers were installed in every school, and key lessons were broadcast each day; teachers were told in the "Guide" what material to have ready for each radio lesson, and were given fairly rigid instructions on how to follow it up themselves.

In spite of some forebodings and pangs of conscience on our part, the new system worked. The Samoan teachers took it up with enthusiasm; here at last was something clear and definite that appealed to the formal structure of their thinking and of their lives. The radio lessons were primarily a form of teacher training, and some village teachers heard for the first time a lesson that had structure, that proceeded from a known beginning to a logical end. It gave them a sense of security. If it was far short of education, it was at least the beginning of schooling. This was, of course, not the only reform instituted. With the help of seconded teachers a beginning was made with simple modern activity methods in Grade I to prepare the way for less formal methods in the higher grades; bright children were taken to New Zealand to be given a secondary education and a full training as teachers; and key teachers and inspectors were given periods of observation overseas.

The problems involved in speeding the system through Stage II and the present condition of the schools of Western Samoa constitute, however, another story. What is significant here is that the policy we were following at the beginning in Samoa was, on the face of it, diametrically opposed to the one we were pledged to in New Zealand. It was impossible to live with such an apparent inconsistency, and so there emerged the concept of stages in the life history of a primary education system, through which all systems, at least of a certain type, must pass. I have suggested three stages: (19)

- I. The Dame School Stage, where the teachers are ill-educated and untrained. Education at this stage is narrow and formal in the extreme; it concentrates on rote memorizing, but at the same time it is unorganized and inefficient, and standards are very low even in these simple skills. The connection between symbols and their meaning is often tenuous.
- II. The Stage of Formalism, where teachers are ill-educated but trained. Schooling is formal, narrow, and thin, but increasingly well-organized and efficient towards the upper end of the stage. There is still heavy emphasis on the teaching of the 3 R's and on rote memorizing and drills, but a mechanism is evolved for maintaining standards: inspection, external examinations, fixed syllabuses and texts, and a fairly detailed control of teaching methods. The meanings attached to symbols, though clearer, lack the richness of inter-connections that is the basis of real thinking. The classroom tends to be passive, with most of the talking being done by the teacher.
- III. The Stage of Meaning, where the teachers are both well-educated and trained. This is typified in the very best of modern classrooms. Meaning, understanding, and problem-solving play an increasing part in the child's day, and memorizing and drill, while still remaining, become subservient to them. There is more autonomy for both teacher and pupil, more variety in content and methods, and more attention to individual differences. The classroom is essentially an active place, intellectually if not physically.

There is, of course, a continuous scale of growth between stages and within stages, and Stage II could usefully be divided into two, since many of the changes with which we are concerned are from the lower levels of this stage to the higher. Yet, arbitrary though it be, this conception of stages does bring out the two contentions that are relevant to our present study of change and conservatism in education:

- (1) The first is that an education system does not proceed through the scale by leaps but by steady progress through the stages. A corollary of this is that, while technical assistance may speed the passage of an underdeveloped school system through certain portions of the scale, it cannot, for example, enable a system characterized by the ineffective formalism of Stage I or the lower levels of Stage II, to leapfrog entirely the stage of disciplined formalism of the upper levels of Stage III, and pass immediately into Stage III, in which only the best of our own schools can claim to be completely established.
- (2) My second contention is really the explanation for the first. The position of any school system on this scale of development is determined primarily by two factors: (a) the level of general education of its teachers, and (b) the amount of professional training they have received. Given certain minimal material conditions, progress up the scale can be achieved by increasing either of these factors, but an emergent system that relies on professional training alone,

without increasing the general level of education of the profession, will have a ceiling somewhere below the threshold of the "stage of meaning". Since our own primary school systems for much of their history operated below this threshold, the distinction may not seem of great significance, but it is of paramount importance as soon as one considers the application of the new technology to schools of this level, for, in their present form, many of the new techniques are devised for operation at Stage III.

The kind of advice and technical assistance we give to school systems below the middle of Stage II will be deeply affected by the degree of truth there is in this thesis of stages of development. If "leap-frogging" is possible, and poorly educated teachers can be trained in a short time to give a primary education that is meaningful and modern, the problem is relatively simple, and the cost should not be excessive; it is only a matter of finding the right techniques and giving intensive training in their use. If, on the other hand, leap-frogging is not possible, we may have to postpone our efforts to achieve a rich and meaningful form of education until a longer and better general education can be given to a new generation of primary teachers, and shall have to concentrate in the meantime on helping the existing teachers to give more effectively the formal kind of education they are already giving. The difference between these two policies of teacher preparation is great enough to merit a closer study of the distinction between the general education and the professional training of teachers, on which the policies are based.

General Education versus Professional Training

In a developed country, as the arguments about J.B. Conant's recommendations on teacher training have shown, the distinction between general education and training is not as obvious as might at first appear. In an emergent country, the situation is less complex, though, even here, a full analysis of the distinction is beyond the scope of a paper of this length. The training college course for young primary teachers in these countries commonly includes some element of general education, but, since it occupies only part of a course that, in all, rarely exceeds two or three years, it cannot do a great deal to make up for the lack of a good secondary education. In the case of practicing teachers scattered throughout the country, there is a strict limit to what can be done, by correspondence courses and the like, to improve their general education, if they have not reached (to steal a phrase) the stage of educational "take-off". All that remains is to provide them, through short-term courses and supervisors' visits, with a measure of professional training in the techniques of their craft. In practice, if not altogether in theory, we can make a distinction between the type of schooling teachers share with other educated persons in the community and the special knowledge and skills they are required to learn just because they are teachers.

The effect of an inadequate general education on a teacher's acceptance of new practices operates at two levels, the intellectual and the emotional. For example, a teacher with no more knowledge of science than the snippets he picked up in a poor primary school may simply not have enough knowledge of his subject matter to let go of his few memorized "laws" and disconnected facts and launched himself on to the deep stream of teaching by problem-solving, where Heaven knows what new questions may arise. It is possible that an otherwise well-educated teacher, backed by such a course as that now being devised by Educational Services Incorporated (ESI), might pick up enough knowledge to get started and then use his own confessed ignorance to make the problem-solving of the class more real. But the confession of ignorance comes most easily to those with well-stocked minds, and demands a degree of confidence that not all teachers possess in even the most advanced system.

On the surface, it might appear easy, in a short intensive course, to give the teacher enough knowledge of the subject he is to teach to enable him to handle ninety-five per cent of the questions that are likely to be raised by a class of primary schoolpupils, but it is here that the emotional effects of a poor education may outweigh the purely intellectual ones. A general sense of intellectual insecurity can create an attitude towards teaching that counts for more than a hastily acquired and precarious competence in any one subject. The essential condition of lively, venturesome teaching is that the teacher has a sense of inner security, and, except in rare cases, this comes only when the gap in general education between teacher and class is wide enough. The teacher who has himself nothing more than a poor primary education is always teaching to the limits of his knowledge. The very best can sometimes overcome the initial disadvantage and develop into excellent teachers, particularly in the lower grades where the gap between their own stock of formal knowledge and that of his pupils is greatest. But for the majority of teachers, who are only a step or two ahead academically of their pupils, the realization that they are always skirting the unknown renders them intellectually insecure, and results in a characteristically narrow and rigid concept of the process of teaching. They cling desperately to the official syllabus, and the tighter it is the safer they feel. Beyond the covers of one official textbook lies the dark void where unknown questions lurk.

The teacher is afraid of other questions in the classroom but those he asks himself, for they are the only ones to which he can be sure of knowing the answers. This fact alone throws his teaching methods back into the last century. If the pupils cannot be encouraged to ask their own questions, most of the techniques of the modern classroom become impossible.

The classroom tends to settle down into a dreary and ineffective routine: teaching is flat and lifeless, and centers on mechanical drill in 3 Rs; learning is mostly a matter of memorizing with a minimum of emphasis on understanding and reasoning; boredom is intense; real progress is slow and the drop-out rate abnormally high. It would be unfair to take this depressing picture as typical of classrooms in all emergent countries, especially as some of them have made such gallant efforts, over the past decade, to improve their standards; but it is a fair description of a not inconsiderable number of schools towards the lower end of the scale. With surprising regularity, observers, in countries widely varying in ethnic and cultural backgrounds, complain that the effectiveness of the school system is sadly reduced because the majority of teachers are satisfied if their pupils acquire a few mechanical skills in reading, writing, and arithmetic and learn by heart small packets of isolated facts.

The reports are so consistent that one is led to look for some cause common to all the cases. A partial explanation can be found in the material conditions of the schools. A teacher with fifty to eighty children in a small, bare room, with no equipment but a blackboard and piece of chalk; and a few miserable, dog-eared texts, with not enough pencils and pieces of paper to go around, and with another class within a yard of him, can scarcely be expected to encourage the unfolding of personalities and the emergence of creative minds. While watching them, I have often been filled with admiration that they produce any results at all, however humble, and that some youngsters struggle through this barren wilderness to a real education. Yet material conditions do not provide a complete explanation of this narrow conception of the teacher's task, for it often persists after there is more adequate provision for the exercise of his craft. Few of us can boast that it has not lingered, in some form and in some places, in our own systems. Nor can external examinations and centralized controls take all the blame for dreary mechanical practice in the schools, which proves itself on occasions singularly resistant to reforming zeal in the Ministry of Education. It may well be that there are historical or cultural factors that predispose some peoples to equate formal education and rote memorizing - it would be understandable in a people who had developed no written language of their own - but the tendency is so universal as to need a wider explanation. As to the pupils themselves as a factor in the case, I know of no evidence that children of any race are inherently less capable of lively, independent thought than those of any other, though children are understandably quick to adopt the pattern of education set by their teachers. Nor is there ground for assuming that, given the opportunity, teachers of any country or race are inherently incapable of becoming first-rate teachers at any stage.

One is driven to seek the cause of this mechanistic conception and practice of teaching in emergent countries in factors more constantly present, and there is little one can fall back upon but the level of general education and the amount of training of the teachers. Most educators would probably agree that these are the dominant factors, but they might differ amongst themselves, and they would certainly differ from some laymen, in the relative weights they would ascribe to each. It is here that policies concerning the reform of education in emergent countries - and to a lesser degree in developed countries -

begin to diverge. If you believe that only a very limited professional super-structure can be built on a low-level general education, you will devote your main energies and finances to raising the educational base of the profession, and will accept meanwhile a type of teaching that is far from ideal. If, with some of the economists and subject specialists, you think that the right kind of specific training in the right kind of techniques will enable you quite quickly to raise an adequate structure on a lowly base, you will concentrate on training and techniques, and will find some comfort in the thought that they also contain a component of general education. The changes are that you will end by adopting a compromise solution, but the kind of training you give and the results you aim for will still be determined by your views on what can be achieved by training in the absence of a good education. In the circumstances it is surprising that so little experimental work has been done on the limitations each level of general education imposes on the kind of training that can be given to the average teacher who has achieved that level. It is the kind of problem that can be put to the test, if not of experiment, at least of controlled observation.

Testing the Hypothesis

The arguments I have offered for this hypothesis of stages obviously falls far short of being a rigorous proof. Work in other areas of the Pacific and observation, extensive but all too superficial, of schools in emergent countries in many parts of the world have given support to the thesis, but an illustrations of principles rather than as proofs. More significant, perhaps, is the fact that, over a period of fifteen years, I found that the hypothesis, first devised to account for the relations between two school systems at different levels, gave a new understanding of the practical problems of diffusing innovations throughout the developed national system for which I was primarily responsible. The fate of nationwide reforms in classroom practice led to the conclusion that only those had a hope of success which were based on the recognition that schools and teachers in the system were spread out along many degrees of the scale, and that, within a five-mile radius of any city there could be found teaching practices that were typical of system thirty years apart in time. The range was less extreme than it is between countries, and differences of general education were less obviously the main determining factor, but, in essence, the practical problems were those the hypothesis of stages would lead one to expect. It was easy enough to establish almost any practice in pilot schools, but constant adjustments had to be made as it percolated through to teachers, who, for one reason or another, were less capable of handling innovations and the ideas embedded in them.

As substantiation of a hypothesis, this is all very personal and pragmatic, and something more stringent is required for any theory that aspires to affect large-scale planning. Proof in any strict sense may have to wait until the stages and sub-stages can be expressed quantitatively, so that the position of a school system on the scale of development can be indicated with more precision. An effort could then be made to match the performance of schools at each stage with the general level of education and the amount of training of the teaching body, and even to experiment with the changes in practice that could be achieved by alterations in these two variables. It would also be necessary to see if the same scale is applicable to school systems, for example in the French colonies, dominated by educational ideas different from the Anglo-American ones on which the hypothesis is primarily based.

This would be a very lengthy process, and it may be that, for that present, it is impossible to establish a positive proof of the hypothesis. It could, however, be relatively easily disproved for all practical purposes. In its bluntest form, the thesis is that the majority of teachers in a system at the lower half of Stage II cannot, because of their limited general education, be specifically trained to adopt successfully teaching techniques based on the goals and the modern problem-solving approach characteristic of State III. A single substantiated exception, among all the innovations that are being introduced into emergent countries, could disprove the hypothesis, or at least cause it to be greatly modified. What is more important, it might also provide the end of a thread that could lead to cheaper education in emergent school systems. As far as I am aware, the thread has still to be found, but a determined search might well uncover some.

lead to a better theoretical understanding of the process of education

The exceptions, if they are found, can come from the application of any modern theory or practice of education, and need not be confined to the results of what is commonly called "educational technology", but, for reasons that will be given later, some of the techniques in this category do seem likely to have particular value in emergent school systems. Some of them, moreover, have goals so clearly defined and methods so specifically laid down that their degree of effectiveness in systems at each stage of development could be assessed with tolerable accuracy. So also could any adjustments that needed to be made to fit them to the capacities of the teachers at any stage.

Fortunately, there are projects, now under way or in prospect, for the application of some of these newer techniques on a fairly broad front in certain emergent countries. If these experiments are properly devised and evaluated, they may provide us with information we sorely need on the problems involved in applying the new educational technology to whole school systems. They could, incidentally, serve as test cases for the hypothesis of stages of development. Before we consider some of these specific projects, there are one or two general points to be made concerning educational technology, which may serve to clarify the issues, and also to bring us back to Harbison's proposal for its wider use as an economical means of improving primary schooling in emergent countries.

New Teaching Techniques

Techniques and Goals.

In advocating the use of the new educational technology in emergent countries, one must distinguish between the technique on the one hand, and on the other, its content and the purpose it is intended to serve. In some school systems the technique may be introduced with great effect because it can be adapted to the immediate needs of schools at any level of development, while the content may prove unworkable because it is aimed exclusively at goals proper to State III.

In spite of its popular appeal, the rather unfortunate term "educational technology" confuses the issue, because it includes a disparate collection of practices and devices that have not much in common except their purpose of improving instruction. Radio, television, teaching machines, films and visual aids generally, can be used either at Stage III or at any level in Stage II. Team teaching (if it may be included under technology) is not a technique of teaching at all, but a method of deploying the teaching force in a school at any stage.

Programmed instruction is definitely a teaching technique, and although it seems especially well adapted to straight factual learning, it can be directed, according to choice, at a wide range of educational goals. The same cannot be said of the revisions of curricula and texts in primary mathematics and science that are being carried out in several places. Many of these are firmly based on the problem-solving approach, and their goals are those of Stage III. To be sure, the energy and skill that have gone to produce them could also be used on courses adapted to the narrower aims of schools beyond the middle of Stage II, but the results would be something radically different, because content plays a bigger role than does any predetermined technique in the preparation of most of these courses. In the circumstances, it is not easy to make global statements about the new educational technology that have the same significance for every item it covers. On the whole, we should be better off without the term.

Although, theoretically, most of the newer techniques could be used to achieve goals typical of either Stage II or Stage III, they are, in fact, the product of their time, and have mostly, though not exclusively, been used to encourage thinking rather than mere memorizing. The exponent of a new "system" naturally tends to stress the newness of all elements in it, but anyone familiar with the reform movements in classroom practice over the past forty years knows that what distinguishes the present educational "technologists" from the reformers of the 1920's is not the ends they seek but the more systematic and detailed means they have to offer. The conventional reformers (if this be not a contradiction in terms) of the past half-century have had a hard enough task in leading many of our own schools from the upper levels of Stage II to the lower levels of Stage III, and have found even greater difficulty in introducing in the schools in emergent countries to a broader conception of the process of education. The vital question now is whether the newer techniques can succeed where the exhortations of the older reformers have failed. Can they, in the hands of poorly educated teachers, carry the whole system through to the Stage III level? How far, in other words, can efficient techniques make possible the acceptance of a new purpose?

As a series of techniques, the new technology would appear, on the face of things, to have much to offer to emergent countries that fits in with their needs and their patterns of thought. Courses such as those produced by ESI, with their close instructions in the students' texts and their detailed help in the teachers' guides, give the step-by-step guidance that unsure teachers feel they need. The even more controlled procedures of programmed instruction, and their strict formality, seem to offer something of which teachers struggling out of Stage I or through the lower levels of Stage II stand sorely in need. The method offers also the constant check of feedback to both programmer and student, which is so necessary at this stage as a reminder, in the language of the 1920's, that telling is not teaching. The techniques that can be classed as media, apart from the vividness they contribute to a subject, can also make possible a fuller use of teachers with skills that are in short supply. So also does team teaching, and it adds as well the advantages that come from breaking down the isolation of the classroom teacher.

In the face of such a formidable list of virtues, it may seem captious to reserve one's judgement on the value of the new technology in emergent school systems. There are obvious material and financial difficulties to be overcome, but, for the moment, we are concerned only with the limitations placed on these new techniques

by the qualities of the teachers who are to use them. The question is not "Are these techniques effective?", but "Under what conditions are they effective, with what types of teacher, and for what purposes?" Even if any technique, in the hands of ill-educated teachers, fails to produce teaching of the Stage III type, it may still be of value in helping the system struggle through to the upper levels of Stage II, provided it is deliberately adapted to the achievement of this humbler goal. It is an area in which no one can afford to be dogmatic. As far as primary education is concerned, even in advanced countries we are far from knowing the conditions under which each technique is most effective, and, except for techniques of old standing like school broadcasts and the use of new curricula and texts, the world's experience in applying the new educational technology in emergent countries is minimal. School administrators who have worked in emergent countries for many years must have a shrewd idea of the use teachers could make of any technique, but, as we have seen, this knowledge is, for the most part, scattered and unorganized. Hence the importance of the more systematic attempts now being made to apply the newer techniques in certain emergent countries. Although few of them are in primary schools, and none, as far as I am aware, have gone far enough to provide definitive results, these experiments would seem to be of supreme importance in the finding of quick answers to some of the questions we are now considering.

Some Test cases

Of the experiments currently under way or in course of preparation, four have been chosen for mention, not because they are necessarily the most important but because they illustrate different aspects of the problem under review:

(1) New Curricula and Texts

Educational Services Incorporated, working in close collaboration with African educators at two workshops held at Entebbe, Uganda, in 1962-1963, prepared a new course in primary mathematics, which was tried out by a few selected teachers, and which, during 1964, is being applied more widely in several African countries by 400 teachers specially selected and trained. (2) An elementary science program is also in preparation, and, after a try-out in the United States, it will be adapted to African conditions. Both courses turn their backs on mere memorizing as an educational goal, and concentrate on making the pupil think for himself and solve his own problems. If they are tried out on teachers who vary widely in the level of their basic education, we may soon be in a position to make a first rough judgment on how far specific training in a technique may become a temporary substitute at each level for a better general education, and whether the transition from low-level rote learning to modern education can be made in one jump or in two. To the administrator, the results will take on their full significance only when the programs move out of the realm of pilot projects and selected staff and are taught, at one remove from the enthusiasts who created them, by the rank-and-file teachers in any system.

If these two courses, as they stand, can be taught in a meaningful way, and within the framework of the ordinary school day, by a large unselected group of teachers with little more than a primary education and a year or two of teacher-training, they could have a profound effect on future educational planning in many countries, and they would certainly necessitate rethinking of the hypothesis of stages of development as it has been propounded. In so far as the courses

fail, in any place, to achieve the high goals set for them because the teachers are unable to apply them, they will face that country with a major policy decision, if it still wants to gain some of the advantages the courses have to offer. It can decide to provide teachers with a longer and better education, using on them the techniques they will be required to use in their own classrooms; this will have the double advantage of giving them more knowledge of their subject matter and more assurance to admit their ignorance when the new methods expose it. Unfortunately, this solution is extremely expensive, and is scarcely practicable with most teachers who have been in the service for some years. The alternative may be to amend the technique in such a way as to make fewer demands on those qualities in which the teachers are weakest. In the case of the ESI courses, as we have seen, this will not be simple, but it should not be impossible to create equally well-contrived courses to help the teachers in service to do better the things they are already doing poorly. If the signs are more hopeful, it may be possible to fix a goal midway between what is now being achieved and the best that could be done by the new technique in the hands of more adequately educated teachers.

(2) Programmed Instruction

Another broadly based experiment began with Unesco, which organized two workshops in 1963 in Jordan and Nigeria "to introduce the technique of programmed instructional materials to educators in the Middle East and West Africa." (21) In spite of the enthusiasm of the staff and the participants, they were commendably cautious in their estimate of what immediate contribution programmed instruction can make to education in the area. They appeared to see its most obvious application in the education and training of teachers, but, at the other end of the scale, could offer little hope in the near future for printed programmes for use in the early elementary grades. It is to be hoped the controlled experiments on the use of programmed instruction in primary schools in Africa will follow from this workshop, and that they will be so devised as to show the limits to which the technique can be pressed in achieving with partially educated teachers a form of education based essentially on understanding and thinking rather than on memorization.

Here again, pilot projects with a few selected teachers will be of only minor interest unless they are precursors to something more extensive. No one doubts that African children can learn by programmed instruction, or that selected African teachers can use the technique in an experimental situation. What we want to know is how much it can achieve with a few hundred unselected teachers working within the framework of a country's ordinary school system. Its failures will be no less important than its successes, and most significant of all will be any adjustments that may prove necessary to fit the courses to the capacity of teachers with different levels of general education. Unless the experiment is planned from the beginning with these objects in view, much of its theoretical, as well as its practical, value will be lost.

(3) Team Teaching

Mention has already been made of the pilot project in team teaching to be undertaken in Barbados under the auspices of the Ministry of Education, the University of the West Indies and Harvard University. The results here may be harder to assess, since team teaching is not a method of instruction but a method of school organization that probably gets its greatest effects from the professional

ferment that results from breaking down the isolation of the individual teacher and making him part of a team responsible for its own planning. In the American setting this often seems to stimulate an interest in new teaching techniques and to give the teachers the confidence to apply them. In emergent countries the educational hierarchy is usually more authoritarian than in the United States, material conditions limit severely what can be tried, and the average teacher has a thinner educational experience on which to draw. Under these conditions, we have, as yet, no idea whether team teaching can generate enough impetus, understanding, and confidence to carry a school through to meaningful teaching at the Stage III level, or whether we shall have to be satisfied with more modest goals in Stage II.

(4) Educational Television

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American Samoa has announced its intention of basing its whole primary school system on instruction by television. "Unlike educational television in other parts of the world," it is reported, "the Samoan system is designed virtually to supplement, the teacher in the classroom. The children will receive all their instruction from a television studio, leaving to the teacher the task of maintaining attentiveness and setting tests." (30) The Governor is said to have given as one of the reasons for this decision: "Teachers supposedly teaching English were incapable of making themselves understood to me. I could not help but wonder what the youngsters were learning". This scheme, if it should be successful, may obviate some of the difficulties concerning stages of development that we have been discussing, although it obviously creates a number of new problems because of the minor role it apparently gives to the classroom teacher. Without an authoritative statement of just what the project involves, it would be pointless to comment on it further, but as an extreme experiment in the application of the new technology to a complete region, it merits the closest attention from educational planners, whether it succeeds or fails.

These four examples do not exhaust the list of crucial experiments being carried out on the use of the newer techniques in the primary schools of emergent countries, but the number is not so great that we can afford to treat any them as isolated attempts to solve specific problems. Nor can we confine our interest to research in the ordinary academic sense of specially contrived experiences. What is called for is some organized method of learning the lessons offered by educational innovations undertaken in any emergent country for any reason. Teachers and administrators cannot mark time awaiting the results of scholarly researches, and, with or without external aid, they are trying out innovations with no broader interest than to solve the problems immediately facing them. For the most part both their successes and their failures have only local impact, and the world goes on making the same errors with monotonous regularity. There is an extraordinarily useful bit of work to be done in looking at the specific experiences from the point of view of some general hypotheses, and trying to construct a first body of theory of more general applicability. But we shall get nowhere without the hypotheses. As a profession we probably already have many of the answers in our heads; all we lack is the right questions.

The Orchestration of the Old and the New

Apart from the specific demands made on teachers by the mastering of any one technique, the task of absorbing it into the classroom may present problems that are no less formidable. In our enthusiasm for new techniques in our own countries, we have tended to assume,

perhaps with some reasons, that the orchestration of the old and the new is best left in the hands of the individual teacher. It is unlikely that the same assumption will hold with teachers in emergent countries, who will demand a degree of detailed guidance that we are not yet in a position to give.

The group of experts that met to follow up the workshops in Jordan and Nigeria evidently had this in mind when they made one of their four key recommendations: "A strategy meeting on the classroom use of programmed instruction should be held before any large-scale use of programmes is planned. This meeting should concern itself with how to train teachers to make the best use of programmes and themselves in the classrooms." (23) This opens up a whole new range of questions that must be answered before we can recommend the wholesale use of some of the newer techniques to make a massive improvement in the standards of education in the primary schools of the emergent countries. What is the role of the ordinary classroom teacher in such a system? If programmed instruction, radio, television, and films are used by a skilled and educated teacher to fill a gap here, to relieve him of routine teaching there, and generally to add variety and liveliness where it is needed, the only problem is to ensure that he has the adequate tool to hand when he wants it. But if these media and techniques are to be employed as an alternative to the giving of more general education to the great body of the profession, the task of defining the role of the teacher is by no means so simple.

Even the most enthusiastic proponents of a new technique have rarely suggested that it replace the classroom teacher, except, perhaps, in the "radiophonic schools" of Colombia, and, to a lesser degree, in the television experiment in American Samoa. The most that has usually been claimed - and that mainly at the secondary and higher levels - is that some techniques do enable teachers whose skills are in short supply to spread their influence more widely, though one is often left in doubt as to the part to be played in the process by the less qualified teachers. The commonest point of view is that such devices as programmed instruction, teaching machines, and television can be used to teach the facts and routine skills that now take up so much of the teacher's time, leaving him free to stimulate and guide the process of discovery, and to answer questions that cannot be resolved in this way or that fall outside the limits of the prepared lesson. This policy runs into difficulties in an emergent country where the primary teachers are poorly educated and mostly untrained. Simple facts and routine skills may be their only professional stock-in-trade, and, if it should prove possible to teach these by some planned or mechanized device, what, within their powers, would be left for them to do?

Few educators would fall into the fallacy of thinking that, barring some break-through on the front being explored in American Samoa, the new technology will make teaching easier, especially at the primary stage. It should make teaching more effective, but only at the cost of more effort and greater understanding on the part of the teacher. Given a docile class or a strong disciplinarian, there is no form of teaching that makes less intellectual demands on the teacher than endless drill in the simple skills and in the memorizing of disconnected facts. If educational technology is to be used to lead teachers away from this to something more effective and meaningful, they will have right to ask for specific guidance on how the new techniques are to replace, or be fused with,

their old familiar routines. The questions will concern not only the fitting of the techniques into the daily schedule, and the relative role of the classroom teacher and the television teacher or the program, but also the subtle task, in the years of transition, of what I have called the orchestrating of the old and the new in the classroom. We are not yet in a position to give this guidance from our own experience, and it is not the kind of thing that can be spun from theory. So it is important that, in addition to pilot projects on the introduction of isolated techniques into the schools of emergent countries, we should concern ourselves just as specifically with research into their effects on the role of the teacher and on the whole pattern and tone of the classroom day.

Other Research on Techniques

The material and financial difficulties of introducing the new technology into the schools of emergent countries are beyond the scope of this paper, but it would be unrealistic to consider the professional problems involved in innovations without a passing reference to their cost. It is to keep down the cost of primary education as well as to speed up the reform of the schools that economists and others have suggested the use of a new technology. Yet, strangely enough, very little work has been done on the cost of the proposed innovations in the schools.

The calculation will be complex. It must take into account not only the direct costs of preparing courses, installing and maintaining equipment, and training teachers ~~to~~ to use them, but also such secondary costs as providing electricity and re-modelling many tropical schools to protect valuable equipment from thieves, vandals, and the weather. This may shift school building costs into a completely new bracket, because it may become impossible for villagers to go on building the schools from local materials. The only economies to set off against these costs will be any reduction in the pupil-teacher ratio (which is usually already so high as to make this unlikely), and the increased "Productivity" of the schools. This is a variable of which it is notoriously difficult to get an agreed measure, but it should be possible to reach a rough approximation by the use of standardized tests and by a study of the effects over a period on pupil-wastage and on the rate of flow through the schools. The calculation will only be complete when an estimate has been made of the costs of achieving the same level of productivity by the alternative method of improving the general education and training of teachers. The International Institute of Educational Planning has begun an enquiry into the costs of introducing the new technology. If the enquiry is deep enough to enable comparison to be made between alternative methods of arriving at the same goal, it is too much to expect quick results from it. In the meantime, our grounds for assuming that the use of the new technology will keep down the cost of primary education are, to say the least, shaky.

The introduction of complex new teaching techniques depends in no small measure on the stability of the teaching force, and this in turn is intimately related to the cost of education. In some primary school systems, the wastage of teachers is hardly less serious than the wastage of pupils. Primary teaching in these countries tends to be regarded as the first step on the social and economic ladder, and a low salary is accepted in exchange for the chance of an education beyond the primary level that will

open the way to a more lucrative career. This creates problems for the educational administrator. If he gives entrants to the primary service more general education without raising their salaries, he will finish by making them more eligible for other white collar occupations. Even if he concentrates on providing specialized training, he is in danger of having his money and his efforts and the new techniques in the factor of motivation be entirely disregarded, even in a profession order to raise that is reputed to have more than its share of idealists; if the stand- primary teachers are to remain "low-paid, poorly educated and ard of unqualified", it is perhaps too much to expect all of them to teaching, be deeply interested in improving standards in an occupation that they regard only as a temporary stop-gap. So it is that any attempt to improve the quality of teaching in emergent countries must be accompanied by a study of the extent and causes of wastage amongst teachers, and of the morale of those who remain in the service. Various methods have been suggested for reducing this wastage, and each of them should, perhaps, be made the subject of a field experiment, but, short of hard evidence to the contrary, it is hard to escape the conclusion that the best way to protect the original investment in the training of primary teachers is to pay them salaries high enough to compete with other occupations. Since salaries constitute the bulk of educational expenditure, nothing could be more calculated to raise the cost of primary schooling.

Patterns of Resistance to Innovations.

This paper began by studying the pattern of forces resistant to change in education systems in general, and then glanced briefly at the same forces operating within an emergent country. At the point where the study was narrowing further on to the resistance to innovations passing between two school systems at different levels, it made a lengthy detour to analyse more closely the concept of "levels" and to put forward a hypothesis of stages of development of a primary school system. It now remains to see if this hypothesis, and the examination of the new techniques that followed it, have served to sharpen the concept of professional resistance forces operating at the point where educational ideas and practices flow from one system of schools to another. It will be convenient to consider them under the same headings that were used in an earlier section.

(1) Lack of Clear Goals.

Paradoxically, it was in some ways easier for our countries to blaze a new trail in public education in the nineteenth century than it is for others, who are at the stage we were then, to follow in our tracks. Our schools lacked both finance, and educated and trained teachers, but they did have clear and simple goals. If their practice was only at Stage II, so also, by and large, were their aims. If they had no one to give them technical assistance with their formidable problems, neither were they confused by glittering goals they had not the means to achieve, or by an "explosion of expectations" set off by the sight of someone else's riches. So their capacity at any moment was never entirely incommensurate with their discontent.

It must be extremely difficult for the thoughtful teacher in an emergent country to arrive at a unified idea of his craft and of its

goals, for, which ever way he turns, he is met by a form of dualism that springs from the juxta-position of systems at two different levels. We have already seen that he may be torn between the community and tribal values that give life its deeper meaning, and what to him may be the useful but superficial values inherent in a school system inherited from a colonial power. If he or his superiors have had a chance to travel - and the travel grant is one of the main tools of any technical assistance program - he risks being dazzled by sophisticated theories, practices and facilities that were unknown to us a couple of decades ago, and that may or may not be relevant to a school system standing where we stood in 1880.

Whether or not he has travelled, he will almost certainly suffer in a more or less acute form from the dualism between theory and practice that is, I fear, one of the marks of our profession. In our case, as we struggled up through Stage II, the gap between the two was limited by the fact that official theory, if not private utopianism, had its beginnings in existing practice. The educational leader or administrator from an emergent country may now find his theories ready-made, usually to the measure of a school system very different from his own. Unfortunately, theories of what constitute good education spread more rapidly through the world than does the practice of good teaching. The aims of education expressed in the official documents of Ministries of Education frequently sound very much the same in countries with widely different levels of practice. Though the goals may be those of Stage III, the practice tends to move only slowly and stubbornly through Stage II. What the educational reformer is often fighting against is not so much a set of positive beliefs at variance with his own as the passive acceptance of practices that may well conflict with whatever theories have already been instilled into the practitioner. In these conditions, one can produce a change in the theories without necessarily effecting a change in the practices.

(2) Acceptance and Understanding

Educational goals and theories coming from an economically advanced country must strike with great force the ordinary practicing teacher in an emergent country, particularly if they are endorsed by his own educational hierarchy. In many other occupations, a bare acceptance of a policy on the basis of authority might suffice, but, as we have already seen, this is not enough to guarantee real advance in education. The only kind of acceptance of a new practice that is significant in the classroom is one that springs from the teacher's understanding and personal conviction.

The teacher in an emergent country is no less susceptible to authority than anyone else, and the chances are that he will accept a theory coming from above, whether or not he understands its full significance, and however slight its impact on his practice. For example, if he has been to training college, he will almost certainly have been taught the evils of mere rote learning as the basis of all education, but it is unlikely that he will have been given the detailed instructions or techniques for breaking out of the circle when he takes up his first position in a school whose practice is traditionally based on memorizing. For that matter, like most of us of an older generation, he may well have been taught the aims and ideals of Stage III by lecture- and- examination methods firmly embedded in Stage II. What lingers in his mind is liable to be the practice rather than the precept, and it is not surprising that a similar dualism should develop in his own teaching.

It is here that some of the newer teaching techniques have their greatest significance just because they are the result of a conscious attempt to carry theory on the back of prescribed detailed practice. "Tram-line courses" (24) of this type do seem to be singularly well adapted to conveying theory through practice to teachers with a limited general education, but it cannot be assumed that the bond between the two is indissoluble. It is still possible for teachers to accept what they think is the technique while misunderstanding the theory it contains. This is most likely to occur when the gap between their present practice and the goals embodied in the techniques is too great. Hence the importance, before introducing a technique from a foreign system, for the reformer to know three things: the stage of development for which that particular form of the technique was constructed, the stage of development of the school system in which it is to be used, and the maximum distance that the majority of the teachers in the system are likely to proceed up the scale of development as a result of specific training alone. Failing that, he is unlikely to have his reform both accepted and understood. A teacher operating a technique that he has accepted but not understood can, by some strange inverted alchemy, turn the most shining idea to lead. No technique seems proof against it.

(3) Teachers the Product of the System

Under this heading, there is little to add to what has already been said, except that, in any technical assistance project, there are two groups of teachers; the donors and the recipients of advice, and that they are the products of two school systems at different levels of development. Each tends to take for granted values and objectives that may be foreign to the other. The onus is more clearly on the donor group to make a conscious adjustment and, above all, to bear in mind that what may be to them only the introduction of a new technique may be to their opposite numbers the acceptance of a different conception of what constitutes education.

(4) Isolation of the Teacher

Here again, the concept of stage of development adds nothing new, but our consideration of the newer techniques in education did suggest that team teaching has a unique role to play in breaking down the isolation of the teacher. If it be true that this isolation serves to intensify the action of every other force resistant to change, some form of team teaching might act as a catalytic agent in the establishment of other innovations.

(5) Range of Ability of Teachers.

The wide differences in education and training between teachers in different school systems is the basis for the whole hypothesis of stages of development, and calls for no further comment. However, the range of ability and adaptability of teachers within any school system is of prime importance to the innovator, and particularly to one who is engaged in transplanting practices from a more highly developed system. The ultimate skill of the administrator-reformer, at the moment when a new practice is to be generally diffused, lies in his sensitivity to the powers and the limitations of teachers at each level on a broad scale of ability.

Even in developed countries, there are great gaps in our knowledge of how new educational practices spread. To the enthusiastic teacher and to the theorist who advises him, this is an untidy and unrewarding field of research, where one has to wait too long for results that can often only be labelled as inconclusive

If you have worked out a new teaching technique, there is excitement in trying it out in pilot projects where you have the double advantage of selected teachers and the Hawthorne effect. The systematic evaluation of results is rather more tedious, and the later dissemination and institutionalizing of the technique can be positively dreary to one who sees nothing creative in it. As H.M. Brickell has said, these are "three distinctly different, irreconcilable processes. The circumstances which are right for one are essentially wrong for the others. - People preferring different phases often have an abrasive effect on each other when brought into close contact." (25) It frequently happens that the research worker loses interest just at the point where, for the administrator, the experiment begins to be significant. Its success in a pilot project is no guarantee that a teaching technique can be pressed on all teachers in a system, and, even if it can, it will probably need modification for the average and below-average practitioners. This transition from the outstanding to the mediocre is one that the administrator usually has to handle alone, which may be one of the reasons why educational research has not had more effect on general school practice.

It would be ungracious to write of the diffusion of educational practices without referring to the pioneer work in this field of Paul Mort and his colleagues (26) It is, nevertheless, still difficult to disagree with M.B. Miles, who introduces a 700-page book on innovation with: "Basically the problem is that we do not understand - do not know with any clarity or precision the answers to questions about almost every imaginable aspect of innovation in education." (27) If this be true of developed countries, the field for research into the dissemination of educational practices in emergent countries stands wide open. There are few areas in which research is more necessary, and possibly none where it is more likely to find immediate practical application. Basic to all such studies will be an understanding of the effect on dissemination of the range of abilities of the teachers in a school system.

Summary

The new partnership between educators and economists in education planning is still an uneasy one, because neither side fully understands the other, yet the technical problems of the other. An examination is made of the economists' complaint that educators are needlessly conservative, and, more specifically, of their suggestion that the new educational technology might be used in some emergent countries to improve primary education while they still depend on "low-paid, poorly educated and unqualified teachers."

Apart from the social and economic causes of conservatism, there is in the teaching profession a peculiar pattern of professional factors resistant to change. These factors are: the lack of clear-cut goals, the need for personal acceptance and understanding of innovations by each teacher, the fact that teachers are the product of the system in which they work, the isolation of the teacher, and the widespread of ability and adaptability amongst teachers. These factors operate with greater intensity in emergent countries, and particularly at the point where educational theories and practices flow between school systems at different levels.

A deeper analysis of the concept of "levels" is rendered difficult by the lack of a general body of specifically educational theory on the growth of school systems in emergent countries. What is needed as a complement to the economists' predominantly quantitative theories in this field is an intellectual framework that will encompass the quality no less than the quantity of the product of the schools. A hypothesis is put forward of stages of development in the life-history of a primary school system. Three stages are suggested:-

I. Dame School Stage, II. Stage of Formalism, III. Stage of Meaning. Although a school system may be helped to speed up its progress through the stages, it cannot leap-frog a stage or major portion of a stage, because its position on the scale is determined by two factors: (a) the level of general education of the teachers, and (b) the amount of training they have received. The first of these is slow and costly to change. Stage I and the lower levels of Stage II are characterized by an undue reliance on mere rote learning, and it is suggested that the progress from this to the more meaningful education of Stage III is dependent largely on the level of general education of the teachers. There is a limit to the kind of improvement more training in pedagogy can achieve on the basis of an inadequate general education.

The newer teaching techniques are considered in the light of this hypothesis. In their present form they are, for the most part, aimed at the goals of Stage III. If the hypothesis of stages is correct, it may be necessary to concentrate on helping schools in Stage I and the lower reaches of Stage II to do more efficiently what they are already doing rather badly to achieve the goals of Stage II. This would involve a considerable modification in the content of the techniques. They may find their most immediate use in emergent countries in the education and training of teachers. It may be impossible to prove the hypothesis of educational stages in any positive way, but it could be disproved by authenticated examples of school systems, that, without giving more general education to the teachers, have actually leap-frogged a whole stage or part of a stage. Some of the newer techniques may perhaps enable this to be done, but, unfortunately, our experience in their use on a major scale in emergent countries is slight. Experiments are beginning in various parts of the world, which, if they are properly devised, could answer some of the questions that have been raised and provide the basis for a genuinely educational theory of the growth of school systems. A few such test cases are cited.

The argument then returns to the pattern of forces resistant to the flow of new ideas and practices between school systems at different levels of development. Special problems are faced by emergent countries trying to establish modern school systems in a world where the example of developed countries stimulates an "explosion of expectations" that they have neither the money nor the educated manpower to satisfy. A case is made for research on the diffusion of new educational practices throughout an emergent school system with teachers of widely varying abilities.

Conclusion

But are teachers needlessly conservative? Can the new technology be used in emergent countries to improve the product of the primary schools with little or no increase in cost? It was too much to expect a theoretical paper to answer either question with a categorical "yes" / "no". At the most, I have suggested reasons for some of the conservatism of educators, without, I hope, giving the impression of justifying it all. As to the new technology, I have tried to shift the emphasis from sweeping claims and counter-claim to the need for research into the conditions under which it can be of value in emergent countries at each level

∟ or

of educational development.

There is, however, nothing tentative about the conclusions that educational planning will soon reach a point of diminishing returns if it does not give as much attention to quality in education as it has to quantity, and that this depends upon a closer working partnership between educator and economist than has existed in the past. If my hypothesis is wrong and the leap frogging of stages of education is possible, then we can offer emergent countries some hope of quick returns from their expenditure on new teaching techniques. But if the hypothesis is correct - or, rather, in so far as it is correct - an emergent country may be unwise to base its planning on the assumption that revolutionary advances can be made in its primary schools over the next decade or two by the use of the new educational technology alone. It would then have to be advised either to make economies outside the field of education in order to raise the general level of its teachers, or to sacrifice the expansion of one part of its school system to the needs of other parts more immediately related to economic development. Such unpalatable advice would be listened to only if educators and economists spoke with one voice.

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PRIORITY NEEDS FOR EDUCATIONAL PLANNING

A DRAFT REPORT

INTERNATIONAL INSTITUTE OF EDUCATIONAL PLANNING

U N E S C O

PARIS

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P R E F A C E

Educational planning is a new field of endeavour. It has received a good deal of help from an impressive body of experience gained by trial and error, but has derived little benefit, if any, from organized and methodical research. It was with a view to filling this gap, to promoting educational planning through research and advanced training, that Unesco, with the aid of the World Bank, the Ford Foundation and the French Government, launched the International Institute for Educational Planning in July 1961.

This report is the third in an inaugural series of IIEP publications aimed at three main groups: first, the producers of research, the research workers themselves; second, the consumers of research - the policy-makers, planners and administrators; and last, the supporters of research, that motley group of international organisations, bilateral aid agencies, philanthropic foundations etc. who are both producers and consumers of research, have been the principal advocates of educational planning, and must be relied upon to provide much of the practical support for research.

The Institute's first report was a comprehensive Bibliography setting out the present state of knowledge by listing some of the most significant documents on educational planning - a few hundred in number - published in eight languages. The second report was a Directory of Institutions, some 85 institutions in 30 countries providing facilities for research and training in the field of educational planning. This third report aims at mapping out, admittedly in a somewhat sketchy and incomplete way, the most urgent research needs of today as seen from the vantage point of both producers and consumers of research.

It should be made clear at the outset that this report does not attempt to dictate research subjects or to confine the

efforts of research workers within rigid patterns. It simply suggests a number of research topics which, in the opinion of people of experience and repute, are considered to be particularly useful and important as well as feasible, and attempts to show how such research can contribute to a better knowledge of the whole field of educational planning. The two dozen projects recommended for priority rating were chosen from a much larger number on the basis of fairly simple criteria: Is the problem important? Does it lend itself to research? Is the research practicable in terms of costs, manpower etc.? Is it likely to yield useful results fairly rapidly? Naturally a priority list thus drawn can never be final or complete; it represents no more than the best consensus of opinion as of today, and but a transient image of a fast-moving frontier of knowledge.

It should also be noted that the projects were selected with a decided bias towards practical application. This does not mean that longer range fundamental research is unimportant in the Institute's opinion, quite the contrary. But the primary concern of the Institute is to aid the "operators", particularly in the developing countries, to solve the practical problems of educational planning. Besides, the Institute believes that applied research must in any event be the pace setter for fundamental research: a valid and useful body of general theory can emerge only from a systematic examination of practical experience.

Lastly, it should be emphasized that the only research topics considered were those that have an immediate bearing on educational planning, which means in practice largely topics that require an interdisciplinary approach. The exclusion of many important problems, such as the investigation of the learning process by educational psychologists, or the study of the impact of education on village life by sociologists, or the inquiry into the historical return on educational investment by economists, may disappoint specialized scholars interested in these questions. But the main concern of this report is with those problems of educational planning which cut across several disciplines and which risk falling between the

stools of traditional academic disciplines. It is precisely this risk that emboldens the Institute to venture its suggestions on research priorities.

The reader may be better able to appraise the value of this report if he knows how it was produced. The process involved three separate stages. The first, lasting almost a year, consisted in a kind of far-flung "brain picking"; by means of direct interviews and correspondence, conducted by the staff of the Institute, a number of research scholars and experienced operators who had made significant contributions to this field were asked to enumerate half a dozen or so specific research topics which they considered most worthy of early attention. Many dozens of opinions were thus collected and, as might be expected, they varied greatly depending on the particular vantage point of each contributor. These contributors are listed below.

These ideas, which gave a fairly complete view of the problems that were uppermost on the minds of leading producers and consumers of research, were then sorted and synthesized in a working paper which provided the basis for the second stage - a ten-day seminar of experts held through the courtesy of the Rockefeller Foundation at Villa Serbelloni in Bellagio, Italy, in July 1964. Particular thanks are due to Guy Benveniste, a member of the Institute's seminar staff, for preparing this working paper, which provided the basis not only for the discussions of the seminar, but also for the drawing up of this report. The Institute also wishes to express its gratitude to the participants who prepared discussion papers and contributed their advice and counsel to the seminar. They, too, are listed at the end of this Preface.

The seminar succeeded in reaching a substantial consensus of opinion on the topics which, in its view, deserved priority attention. It then proceeded, frequently in specialized sub-groups, to consider how each of the selected research topics could best be defined and approached. There was no voting and no attempt to adopt formal resolutions: each participant felt free to express his personal views

irrespective of his institutional affiliations, in the knowledge that he was not speaking "for the record", but simply contributing ideas to a report which the Institute itself would prepare under its sole responsibility.

The Bellagio seminar was followed by the third stage, which involved a further sifting of ideas and the preparation of the present report. The Institute owes special thanks to John Vaizey, a senior consultant whose creative contributions to educational planning are widely known, for his help in drafting this report in association with the Director.

It may be mentioned here that, from the projects which emerged at Bellagio, the Institute has selected several topics which appear best suited to its particular mission and capabilities for its own priority attention.

In presenting the following research suggestions, it is the Institute's hope that scholars and research institutions throughout the world will find them profitable in making their own choices and designing their own projects, and that organizations which are in a position to support research will find in them a useful guide to action.

CHAPTER I. THE ROLE OF RESEARCH IN EDUCATIONAL PLANNING

Before establishing research priorities, it may be appropriate to consider the role of research in educational planning. But first of all, we must be quite sure of what we mean by educational planning.

Planning must be distinguished from day-to-day administration, yet it must be intimately related to administration if it is to have any real effect. It must clearly be more than the elaboration on paper of targets which bear little relation to what happens in the schools and universities or to the process by which policies are formed, budgetary decisions made, and resources allocated. An educational plan should be capable of being translated into action. It should be a continuous process running from the diagnosis of present conditions and the assessment of future needs to the formulation of plans for meeting these needs, the formal approval of such plans, their practical implementation, the evaluation of results, and the revision and formulation of future plans in the light of this experience.

Educational planning should, in principle, cover the whole educational system and relate its development to the economic and social needs and objectives of the nation. It should provide for a balanced development of all the level and types of education and training, for adults as well as for children, in school and out of school. It should be concerned not only with the quantitative expansion of education, but also with its qualitative improvement, with the reforms and innovations which will make the schools and universities of tomorrow not merely bigger, but more efficient, effective and appropriate than those of today.

Educational planning is thus a process which requires the participation of many different kinds of people: teachers, educators, parents, pupils, administrators and politicians. In a sense, all of these are educational planners; but in the context of this report, the term "planners" will be restricted to those working at a strategic level who are technically competent to express national objectives and aspirations in the form of a coherent plan and who are in fact responsible for drawing up such a plan.

In some countries, planners will be officially identified as such and may be part of a separate unit, perhaps of a central planning commission, instead of being located in the department directly responsible for education. In other countries, the planning function may be more diffused and assumed by administrators who are not officially planners, though their planning function is quite separate from their administrative duties and calls for different kinds of skills.

A planner, of course, is interested as much as any average citizen in the content and quality of education and in its usefulness to the individual and to society. As planner, however, he has a special concern in making more specific the objectives, policies and priorities of the nation, and in the practical means of pursuing them. He is concerned particularly with the costs of education and with the possibilities of reducing them while preserving or improving quality; with the salaries and other inducements needed to attract more and better teachers; with the most effective way of using teachers; with the cost and quality of school buildings, the cost per pupil, the cost of drop outs; in other words, with how to get the best possible results from the resources available. His principal task, however, is to elaborate policy alternatives and formulate clearly their implications, because it is on the basis of these that political leaders and decision makers in general will make their choice.

Educational planners have thus a role similar to that of economic planners and manpower planners. Indeed, there is no clear demarcation line between them, and their functions overlap to a large extent. Education is so intimately related to economic and social

development that educational, economic and social planners must always work closely together. The educational planner must thus clearly take into account many different variables in a very complex equation, and put into a proper perspective many aspects of a very tangled picture. He cannot be an expert on each of these aspects, but he must be able to indentify the questions and issues that need to be solved, and find the right people who may be able to solve them. This is where research comes into the picture.

In considering the role of research, it should be borne in mind that there are several kinds of research. There is, first, fundamental research, which is the disinterested quest for knowledge without regard to its immediate application. There is, next applied research, which aims at finding answers to problems more immediately relevant to practical operational matters. There is, lastly, a body of assessments and judgements made by people of discernment and good sense on the basis of their wide and long experience. All three contribute to the planning process, and most of the projects outlined in the following chapters can be attacked by any of these three methods, singly or in combination, for they form a continuous spectrum and are not mutually exclusive.

Here, however, our main concern is with the middle of the spectrum, i.e., with applied research. This does not mean that we are not concerned with fundamental questions, such as shedding more light on the role of education in transforming cultural patterns or in spurring economic growth. But we are convinced that often the best way to tackle these fundamental problems is by attacking specific practical problems and studying them in their real context. In the field of educational planning, this is the only way to generate the material from which a sound and usable body of theory can be evolved.

Nor do we mean to ignore the other end of the spectrum -- the assessments and judgements of people of experience and discernment. On the contrary, one of the important tasks of research is precisely to tap this experience, for it is a prime source of valuable evidence. But the experience of any one person, however wide, or of any one country, is rarely broad enough to provide an adequate basis for valid generalizations. Only a systematic and comparative examination of a sufficiently large and diversified cross-section of national experiences and individual judgements could provide such a basis. The collection and classification of data from a variety of situations is, therefore, a prerequisite for most of the research projects envisaged in this report. In other words, the practical problems of educational planning must be studied systematically in their real setting in a representative sample of countries where there is already available a body of accumulated practical experience which, if properly "mined", can yield a rich harvest of knowledge.

If it is to be effective and efficient, applied research must have a well conceived strategy. For most of the projects outlined in this report the first step is a tentative design of the research structure and the careful examination of all the relevant literature, including operational reports and surveys of ten scattered in files throughout the world.

With the completion of this first stage, the time may, however, not yet be ripe for making a final decision on the design of the project. Where the problem under study is large, complex and relatively unexplored, the wise second step will often be a pilot project of field investigation aimed at testing out hypotheses, methodologies, feasibility, and at ascertaining the size of the sample (number of country case studies, for instance) needed to ensure reliable conclusions. The third step would then be the final design of the project followed by its execution. Many of the projects suggested in this report will require very extensive field investigations conducted in a sufficiently uniform manner in a variety of countries to permit comparative analysis at a later stage.

The scope of these research projects can vary of course within wide limits, from one man working several months to a large team drawn from a number of disciplines working for several years. Similarly, the cost can range from a few thousand dollars to several hundred thousands of dollars. When a research project is very large, it is usually possible to break it into smaller components which can be "farmed out" to different research units, the results being later synthesized at the centre. Most of the research projects outlined below are so defined as to lend themselves to a more or less complete investigation by teams, or even by individuals, according to the degree of research support at their disposal.

The research workers themselves will have to be drawn from a wide variety of disciplines, according to the subject under study. Most of the projects in the field of educational planning call upon the skills not only of educators, social scientists, economists and administrators, but, in each of these broader categories, of experts with a much narrower specialization, such as educational accountants, educational budget officers, comparative educationists, social anthropologists, psychologists, demographers, economists with special knowledge of cost and price analysis, public finance specialists, econometricians, manpower economists, accountants etc.

There are some problems, however, which research cannot solve. Administrators and political leaders are often obliged to make choices and decisions which are governed by hunches and intuition rather than by the results of scientific investigation. No amount of research can remove this necessity, nor the perplexity which it necessarily entails.

* * *

Out of a large number of topics considered in the course of preparing this report, twenty-five have been finally selected. The number could easily have been doubled or trebled without deviating from our main criterion, which was to consider only projects of direct relevance to the needs of the educational planner. But priorities imply choices, and the choices here were often as difficult to make as in educational planning itself. The twenty-five projects are classified under six headings: Educational Costs and Efficiency (7 projects), Financing Education (3 projects),* and International Aspects of Educational Planning (5 projects). The classification is somewhat arbitrary, since many of the projects cut across two or more divisions. ~~But~~ these divisions have a certain logic and convenience, though it should be borne in mind that these different aspects of educational planning are interconnected and should be viewed as such by the educational planner.

All these problems, if they are to be studied realistically, must be investigated "on the spot". Hence the almost monotonous emphasis in the chapters that follow on case studies, and these must be conducted on a sufficiently comparable basis to lend themselves to comparative analysis. Also, the countries studied must be selected so as to reflect an appropriate diversity of size, level of development, educational system, experience in educational planning, economic and social structure etc. Moreover, the research team must have a proper balance of skills and be capable of harmonizing individual efforts - no easy matter where research workers with different disciplinary backgrounds are involved. Lastly, each case study must be clearly circumscribed and focused: if it attempts to cover too much, it may end by covering nothing well enough.

These are all difficulties which it would be naive to ignore. In particular, the social sciences have still much to learn about interdisciplinary team research, about comparative country analyses, and about inter-institutional collaboration, especially that involving research institutions and personnel in both developing and advanced countries. Nor have they found it easy to orientate their research toward practical and operational issues so as to provide genuine help to those responsible for making decisions and taking action. But

*Teachers (3 projects), Manpower Aspects, (4 projects), The Planning Process (3 projects)

it is precisely by coping with such difficulties and overcoming them that the social sciences will advance towards greater maturity and thereby enhance their capability for helping society itself to advance. And in so doing, they are likely to free themselves from the severe and chronic financial handicaps which have retarded their own development for so long.

There now remains one last question: How realistic is it to expect that the research projects recommended here can actually be carried out in the next few years?

One possible bottleneck, of course, is the world-wide shortage of competent social science research workers. But this is an argument which applies to virtually every kind of specialized talent and simply underscores the need to give more serious attention to research priorities. This, in turn, raises the question of whether priorities are compatible with the spirit of true research. The answer is, of course, that while freedom of inquiry, including the freedom to choose what to inquire about, is a prerequisite of creative research, this free-dom implies a duty, particularly on the part of social scientists, to weight heavily the needs of society in choosing the subjects of research. This is, in fact, the raison d'etre of applied research as distinct from fundamental research.

But going back to the question of a possible shortage of research workers, it should be borne in mind that the research projects recommended here require the work to be shared by specialists in many professions and disciplines; it need not overburden any one of them. In any event, the requirements for making early and rapid progress on these particular projects can be measured in dozens of research workers rather than in hundreds. In this respect, the enterprise is entirely manageable. The greater problem, perhaps, is to get specialists drawn from different disciplines to work fruitfully together on interdisciplinary problems.

The ultimate bottleneck, however, as many experienced researchers will be quick to point out, is the finance for the job. It may be said, in this connexion, that the chronic shortage of funds for social science research, including educational research, has actually encouraged a wasteful use of resources by restricting many research projects to fragmented, trivial - and ineffectual - forays where in fact only a concerted and major effort could have yielded any useful results. Be that as it may, the financial requirements for the projects outlined below appear modest, at least in relation to what is spent every day on the physical sciences and on the educational enterprise itself. Something of the order of two million dollars a year would probably underwrite a really significant effort along the lines suggested here. It is true that these twenty-five particular projects represent but a fraction of the research needed in the field of educational planning and development. But if as much as ten million dollars a year were devoted to research on educational planning in the course of the next few years, the results could be spectacular. The odds are promising enough and the stakes high indeed to warrant the gamble - if gamble it be.

CHAPTER 2. EDUCATIONAL COSTS AND EFFICIENCY

Costs are a question of major concern to educational planners, because money is, together with manpower, the principal factor limiting educational development. Yet the shortage of reliable cost data and the inadequacy of analytical techniques are a major handicap to educational planning in most countries.

Cost data and cost analysis serve essential purposes; they make it possible to appraise the comparative merits of alternative ways of pursuing the same educational tasks, to determine alternative patterns of allocating fixed educational resources between different levels and sectors of the educational system, to assess the financial merits or demerits of changes and innovations, to test the efficiency of established educational practices, to judge the economic feasibility of educational plans and the aptness of individual projects. Cost analysis is, in fact, the principal means for assessing the efficiency of an educational system, a problem which today confronts every nation and every educational administrator. For scarce resources - teachers, pupils' time, buildings and finance - are often used inefficiently and ineffectively. And while some forms of waste, such as high drop out rates and lavish buildings, are obvious, others, such as inefficient teaching methods, obsolete or irrelevant curricula, bad administrative procedures etc. are often much less apparent and can only be brought to light by cost analysis.

It is often assumed that any cost-increasing change in education inevitably improves the results. In fact, the money might often be spent better in a different way. Not nearly enough critical attention has been paid to factors which greatly affect aggregate unit costs, such as the pupil/teacher ratio, the size of schools, the variety of the curriculum, and the yearly number of hours of

instruction per pupil. Sometimes the introduction of new teaching technologies, such as television or programmed instruction, or a new organisation of the teaching process, such as team teaching, may increase the educational results at a smaller cost than would be involved in merely expanding the conventional methods. Again, the performance of certain training tasks outside the school rather than inside may lower costs without impairing results. Comparable effects may be achieved by reorganizing teacher training, teacher careers and salary structures so as to put a premium on knowledge and performance. Clearly, all these new techniques must be examined in terms not only of costs but also of results, both qualitative and quantitative, for these are but two sides of the same coin.

The seven projects relating to cost analysis in this chapter deal with several different aspects of education. They all require a close collaboration between educators and economists, with occasional help from other kinds of experts.

1. Raising Productivity and Reducing Costs in Established Educational Systems.

This project calls for an analytical frame which

a/ will help to identify the areas and points within the educational system which offer the most promising opportunities for reducing costs and raising productivity, and

b/ can provide clues to the kinds of changes capable of producing such results without impairing quality.

The study would thus consist essentially in an examination of concrete cases with a view to ascertaining how cost savings have in fact been achieved in the educational systems of both developed and developing countries, and what possible new approaches to this problem would merit further consideration, in the form of experimental testing, for example. Particular attention

should be paid to six major sources of expenditure, school construction and maintenance; equipment, textbooks and teaching materials; teacher supply and utilization; administration; drop outs; and curriculum content. To give an example with regard to school building and maintenance, school building projects are undertaken, often with foreign aid, without much consideration of the high recurrent costs they will impose on the recipient country in the future.

The project would begin with an examination of available data in order to determine the specific cases which deserve a more intensive study. The second stage would consist in a more rigorous examination of a substantial number of such cases, chosen so as to provide a variety of examples of cost-saving possibilities. In the third stage, proposed pilot projects for testing additional possibilities for cost savings would be formulated. The findings should be set forth in a manual for the practical guidance of educational planners and administrators.

2. Development and Dissemination of Improved Methodologies of Educational Cost Analysis.

The aim of this project is the preparation of a handbook setting out the practical procedures in costing for the use of educational planners and administrators. The handbook would explain such problems as the techniques of questionnaires and of data processing, the possible sources of error that they entail, the administrative machinery they require, and would compare existing practices on the basis of their merits and demerits. It could start with basic techniques and proceed to the more refined methods applicable in countries where the requisite staff and equipment are available. It should enable

educational administrators to compare such matters as current costs per unit in individual schools and in school districts, capital costs per unit, the components of aggregate costs and the respective proportions of these components. This kind of analysis can bring to light deviations from the average, and thus lead to study the causes of such deviations.

Account must also be taken of trends in unit costs. It is generally assumed, with out much evidence, that the prices of services increase with the average rise of productivity. But the prices of mass produced teaching materials and equipment may remain constant or even fall. It is necessary, therefore, to apply the principles of price index construction to unit costs, and to consider how the different components of costs are likely to behave when the educational system is expanding.

The handbook should make it possible to translate any programme for educational expansion or reform into money or real terms, or, alternatively, to show which factor combinations are possible within a given amount of expenditure.

3. Educational Unit Costs in Developing Countries.

Unit costs, i.e. the cost per pupil, are a particularly important planning tool, and this project aims at improving both the methodology and the supply of data with regard to unit costs. It might be undertaken in three stages.

The first stage would consist in establishing clear concepts and definitions, and applying them initially in some sample field studies. The essential problem here is to evolve concepts which are both relevant to the practical needs of planners and policy makers, and lend themselves to practical use with the kind of data likely to be

available in developing countries. A clear distinction must be made, of course, between costs measured in current prices, costs measured in constant prices, costs measured in real terms (of manpower and other resources), and costs involving the use of foreign currencies. Government budgets are expressed in current local prices, but measuring cost trends over a period of time requires the use of constant prices. Real costs become important when the question arises, for example, of deciding what proportion of manpower or construction capacity would be required to implement a given plan or programme, or of assessing the substitutability of one type of educational resources for another to ease a particular shortage. Foreign currency costs are an important consideration when educational needs must compete with other important national needs for allocations of scarce foreign exchange.

This first stage would also comprise exercises in gathering and analyzing actual cost data, including the main components of various aggregate unit costs, in a few countries; and some initial comparisons of unit costs for different levels and types of educational activities with a view to determining the extent of variations and their main apparent causes.

The second stage would seek to establish some cost norms applicable to a particular country for the purpose of identifying cases in which costs deviate substantially from such norms and investigating them. It would also be desirable to establish, if possible, norms for certain prototypes, such as a rural elementary school based on austere but adequate standards; an urban general high school, a vocational school etc. As data accumulate, it should also be possible to study the evolution of unit costs in relation to the size of educational units and to

determine what appears to be the optimum size. These and many others questions of importance to educational planning and administration may become clearer when more evidence on unit costs becomes available.

The third and last phase would consist in attempting some international cost comparisons. To avoid serious errors and misconceptions, these comparisons would require the application of comparative price indexes, as outlined in project 9.

4. Applying Educational Innovations in Developing Countries.

A considerable amount of work on new educational methods and technologies has been done in recent years, and the results have been encouraging. Innovations such as programmed learning, the use of film, radio and television, language laboratories, team teaching, special approaches to teaching mathematics and science, etc. are beginning to make their mark. Until now, however, they have been considered only from the point of view of their educational efficacy. The time has now come to study their economic implications as well, in order to determine their possibilities for practical use on a large scale, particularly in developing countries. For many developing countries have simply not the resources to meet their vast educational needs, both quantitative and qualitative, by merely expending the present conventional methods and techniques of education. Education is in need of innovation just as much as industry, agriculture or medicine.

The study would thus attempt to answer the following questions: In what critical areas of the educational system, informal as well as formal, and of the curriculum could these new technologies be most useful, and what educational results could be expected from them? How could the new techniques be most effectively combined with traditional methods to overcome the shortage of teachers,

facilities and funds? How much would they cost in money and in real terms compared with conventional methods? What are the main variables which affect their cost, and under what conditions would they be most economical? What are the foreign currency costs involved in their use? What factors other than economic costs affect the introduction of these innovations?

The first stage of the project would consist in re-evaluating the cost data and information already available on the subject with a view to assessing, at least tentatively, the economic feasibility of these new techniques in developing countries.

The second stage would aim at studying the greater depth some ten to fifteen significant pilot projects in developing countries in order to obtain a more complete view of the problems and opportunities offered by these new techniques.

In the third stage, the results obtained in the two preceding stages would be applied, in co-operation with educational specialists and planners, to some actual situation in one or more developing countries specially selected for this purpose, with the aim of developing plans for the application of these new techniques on an economically acceptable basis. Such plans might well become the basis for action projects. It would be important to build evaluation measures into such action projects so as to gain further, and perhaps more reliable, information on both the economic feasibility and the educational effectiveness of the various innovations.

15. The Economic Aspects of Pilot Literacy Programmes.

Pilot literacy programmes are under way or are being initiated in a number of developing countries as part of a broad campaign to eliminate illiteracy. Unesco is initiating

action on a series of such pilots programmes in 1965. There is also the problem of sustaining literacy once it has been achieved.

Literacy in this context means something more than merely reading and writing; it aims at providing the non-school population, or specific groups of that population, with functionally useful knowledge which can be applied in the interest of both individual advancement and national development. To improve one's "literacy" about agricultural or health techniques, for example, may not necessarily require the skills of reading and writing, though these are important tools for further learning.

The implementation of these programmes encounters great difficulties through lack of teachers and of finance. But the major difficulty perhaps is due to the fact that knowledge on the best ways and means of achieving literacy is far from being conclusive. And it is with a view to developing better knowledge of techniques and planning in this field that pilot literacy programmes are being carried out. One aspect of these programmes concerns the economics of the various techniques and the economic benefits that may result from successful literacy campaigns carried out by different methods.

It is this aspect which forms the subject of the project proposed here. Established or new literacy programmes using different methods of teaching would be examined with a view to estimating their costs, in real terms and in money terms, and to comparing these costs with the results achieved, particularly the educational results. At a later stage, an analysis of costs and results would be built into a number of future pilot literacy programmes in order to provide a better basis for ascertaining the relative merits of large-scale literacy campaigns.

Particular attention should be paid to the costing of new educational techniques as outlined in project 4, and to the possibilities of using "voluntary" resources and local support. The ultimate purpose of the project would be to find the most economical ways of using resources in order to achieve the aim of universal literacy, and to elicit the most propitious conditions for introducing such campaigns.

6. Comparison of Alternative Methods of Vocational Training

In view of the importance of vocational training, whether within or without the formal educational system, for modernization, a major effort is being made everywhere to develop this branch of education. The problem has been approached in different ways, both formal and informal, but there is as yet no adequate basis for choosing between these two main approaches or for determining the best combination of the two in any given situation. An analysis of the vast body of experience accumulated in the past should now prove possible, and it may also prove extremely useful, as the scope for economies, in time and manpower as well as money, seems considerable. Some estimates suggest that informal education may cost nearly as much as formal education, but there is little reliable information on this subject. Nor do we know for certain which of the two methods is more effective for any given purpose.

This project would therefore attempt to assess the costs of vocational training, on the one hand, and the results obtained, on the other. This, however, is not always an easy matter. Thus, the costs of training, for instance, cannot always be ascertained from the accounts of even large enterprises, because the training is connected organically with production and the breakdown of costs is often not detailed enough. This is even more so

in the case of smaller enterprises. In addition to the resources provided by the enterprises - manpower, buildings, equipment etc. - grants, subsidies and facilities are provided by government, both central and local, and by industrial associations and trade unions, and these can usually be identified and assessed. The government can also provide tax remissions and help by organizing administrative procedures which enable training to be undertaken more effectively.

The result, i.e. the output, is relatively easy to measure when the training leads to a defined qualification. Where there is no such objective test, the problem is more difficult. Here lies one major obstacle to the assessment of the effectiveness of training.

This project concerns a subject of which the ILO and Unesco have each had much experience. Both could help by providing data on costing procedures and on procedures for testing results, and both have an interest in doing so.

7. Economic Advantages of Multinational Co-operation in Education.

It is difficult and exceedingly expensive for developing countries to provide the whole range of educational services and supplies needed for a full-scale educational system. The diseconomies of small scale are especially great in the training of specialized high-level manpower, but they are by no means negligible in the preparation and production of textbooks, equipment and other educational materials. Nor are they trivial where educational innovation is being tested by means of pilot studies. Neighbouring countries may thus often find it cheaper to learn from each other's experiences rather than to undertake independent action.

This project would therefore be concerned, in the first place, with multinational co-operation in developing institutions for training high and medium level manpower. The number of such institutions already in being is large enough to permit some preliminary judgements about their effectiveness. The subjects to be studied would be, first, the cost advantages of such institutions, then the best methods of administration and financing, of selecting the staff and of choosing pupils, the impact of such institutions on the host country and the member countries, and the relationships between such multinational institutions and other national institutions in member countries.

Another part of the project would be concerned with the economic aspects of joint production of textbooks and other educational materials.

This project is closely related to projects 2 and 3, and the teams working on these two projects would gain considerable knowledge from the investigation of multinational enterprises in the educational field.

CHAPTER 3.

FINANCING EDUCATION

The fiscal burden of education is considerable: in every country it represents a substantial - and growing - proportion of the national budget. The problems of financing education, whether from public funds or from private sources, are therefore of prime importance to educational planners. How is education, public and private, financed at present? What are the most effective measures for raising educational revenue? What norms can be established with regard to the pattern of educational finance? These are the central issues with which we are concerned here. The three projects in this chapter deal, therefore, respectively with the methods of financing education, the question of how much a nation should spend on education, and the special problems of financing compulsory education.

8. Methods of Financing Education: a Comparison

The purpose of this project is to answer two basic questions:

- a/ How is education actually financed today in various countries?
- b/ What conclusions can be drawn from that experience about the efficacy of various revenue-raising measures?

The best way to tackle these questions is to examine the actual experience of a cross-section of countries. The first stage would thus consist in finding out the detailed pattern of educational income from both public and private sources, on the one hand, and the detailed pattern of expenditure, on the other. Wherever possible, these data should distinguish between national, regional and local revenue and expenditure, because the flow of funds from the more developed to the less developed areas is of particular importance to educational policy. It is also important to identify educational expenditures which fall under other budgetary headings, such as defence, agriculture, health etc., and such unconventional sources of educational finance as lotteries, loans, tied taxes etc. Lastly, it will be necessary to examine the elasticity of the yield of various sources of revenue, including

private fees and donations, in response to incomes, and to relate the fiscal structure of education to the entire fiscal system of a country.

In the second stage of the project, the data thus obtained would be used to trace guide-lines for enabling governments to determine what are the best ways of financing education and what is the most appropriate relationship of educational outlay to other public outlays on social services. There is a certain degree of competition and complementarity between education and health services, for instance, which merits more detailed examination.

This project requires a thorough analysis of government accounts, something that has not yet been undertaken on a wide scale, although the O.E.C.D. convention on this matter has already helped to make some progress in this field. With the gradual improvement of statistical material relating to government accounts, it should be possible to make more detailed comparisons of the pattern of government revenue in different countries and of the fiscal structures of the various educational systems. Incidentally, this work will also be necessary for projects 2 and 9.

9. How Much Should a Nation Spend on Education?

The question of how large a proportion of its resources a country at a given level of economic and social development should devote to education is a major issue facing educational planners everywhere. Naturally, there is no mathematical formula to answer this question: beyond a certain minimum, the range of choice is wide. But comparisons can be useful in helping countries to make decisions in the light of experience, current and historical, of a number of countries at different levels of development. This project would aim, therefore, at developing better techniques for relating the educational effort to gross national product and to the efforts made in other sectors of national activity, and at comparing educational efforts and patterns in a number of countries at different stages of development. This, it is hoped, should make it possible to suggest an order of magnitude for the educational effort

which a given country would have to make in order to reach the next stage of development.

One of the first tasks would be to develop criteria for judging the degree of priority to be given to education as against other forms of expenditure - private consumption, social welfare, defence etc. The basic tool of economic and social planning is usually macro-economic estimates of the present size and distribution of gross national product and of its future size and distribution as determined by projections and forecasts. Education will have to be fitted into this picture, and every educational plan will require an exercise of this type to trace sources of expenditure and make relevant comparisons with other sectors of the economy.

The first stage of the project will thus consist in the collection and analysis of data relating to educational expenditures in both absolute and relative terms, relative, that is, to other sectors of national activity.

The second stage will be concerned with elaborating "norms" of expenditure by relating outlays on education to outlays on other economic and social sectors. The problem is to decide what level and proportion of total resources seem appropriate to a given situation. Here the relevant factors will be not only the balance struck in various countries between education and other social and economic sectors, but also the amount of leeway in education to be made up, the social pressure for spending on education, the proportion of the population of school-age in the total population, and the price of education in relation to that of other services and goods.

In fact, the working out of these relative prices of education in different countries is essential in determining how much a nation should spend on education and should constitute an important part of the project. The prices of educational goods and services vary widely from country to country and do not necessarily, or even often, move with the general price level. But what is even more important is the relative prices. For instance, the absolute price of a primary school teacher in Nigeria may be much lower than that of the corresponding teacher in England, but the relative price, relative, that is, to

other services and goods in the two countries, may be much higher in Nigeria than in England. As long as such relative prices have not been worked out, all international comparisons of educational outlays will remain invalid. The work done by Milton Gilbert on goods and services in general is a pioneer study which can serve as a model for a comparable study on the relative prices of education.

10. Financing the Expansion of Compulsory Education

The expansion of compulsory primary education is a major target of all developing nations. The right to universal free primary education is guaranteed by the Declaration of Human Rights and many national constitutions, and the conferences at Karachi, Addis Ababa and Santiago drew up programmes for the regional implementation of this guarantee.

However, the problems of financing these programmes have become acute. Consequently, many governments would welcome a study setting out the difficulties encountered in various countries and the methods adopted to overcome them. The project would thus consist in an intensive study of the ways in which programmes for the achievement of universal compulsory primary education have been financed in a number of selected countries. Attention would be paid, in particular, to ways of meeting capital and current costs, to unorthodox methods of finance, to local participation in kind, voluntary or otherwise, to any co-ordination of compulsory primary education with community development and agricultural services, to the actions of other organisations, such as the armed forces, for instance, and to the methods of remunerating teachers. Such comparative studies would provide useful insights into the problems of financing compulsory primary education.

CHAPTER 4. TEACHERS

Teachers are, of course, the most crucial - and scarcest - resource in education. Of the many aspects of this broad subject that merit research, we have selected three which are particularly important and urgent. The first deals with the major factors that determine the supply of and the demand for teachers, the aim of the project being to identify policy alternatives and possible measures for coping with imbalances in the supply and demand for teachers. The second project examines the possibility of improving teacher supply through broadening educational and employment opportunities for women. The third project represents one possible approach to the vital question of the role of education in rural development, that which consists in inquiring into the functions and role of the rural teacher.

11. Balancing the Supply of and the Demand for Teachers

Past studies of teacher supply or demand, though useful for particular purposes, have usually been piecemeal and have ignored the interaction between supply, demand, and teacher utilization. The project aims at examining this aspect of the teacher problem within a wide framework with a view to devising measures capable of ensuring a better balance between the teacher demand and supply. Such a study would afford an unusual opportunity for co-operation between research workers and teacher organizations concerned with strengthening the teaching profession. The World Conference of the Teaching Profession, for instance, has undertaken a series of brief studies of teaching conditions in Africa, Asia and Latin America which could be very useful to this research project. Other studies on this subject undertaken under the auspices of Unesco and ILO could also provide valuable information.

It should be noted that, since teachers are usually the largest single group of qualified manpower in any country, this study might also throw useful light on the demand, supply, and utilization of qualified manpower in general.

The study would be in two stages. The first would consist in examining, for a number of selected countries, the past growth of the teaching profession, in particular, the outflow of teachers to other occupations, especially administration and politics, and the measures taken to expand the supply of teachers. In this connexion, it would be important to study the socio-economic conditions and status of teachers (which affect supply and turnover), the social and geographical (i.e., urban v. rural) origins of teachers at different levels as well as their educational background, problems of unemployment and of "double employment" among teachers, opportunities for advancement through in-service training and on the basis of performance, the training of head teachers and their functions, etc.

In the second stage, the data thus obtained would be analyzed with a view to devising measures aimed at improving the quality of teaching services and the balance between supply and demand for teachers through

a better utilization of the teaching force. Here are some of the questions which the study would seek to answer: what is respectively the minimum and the desirable level of qualifications of teachers at different levels of the educational system? How can teachers keep up-to-date with new knowledge and new educational techniques? How should they be trained in order to cope with the flow of educational innovation? How can the rewards and attractiveness of teaching be increased and the demand for teachers be reduced by a better and more effective utilization of teachers, especially those of the highest ability? How can the demand for teachers be kept in balance with other demands for people of similar ability so as not to deprive the community of qualified manpower in sectors other than education? To what extent is the recruitment of the right kind of people into teaching affected by social and institutional barriers, and to what extent by economic barriers? What practical measures can be taken to reduce these barriers?

The methods by which particular countries have successfully attacked some of these problems (of demand, supply, and utilization of teachers) would be illustrated by specific examples which could serve as a kind of model for other countries facing similar problems.

As already mentioned above, this project could throw some light on the training and utilization of high-level manpower in general and prove useful for similar studies of other professional groups, as proposed in project 16.

12. The Education of Women and their Place in the Teaching Profession.

In every country women represent a major-potential source of teachers. But the extent to which this source is actually tapped depends on the educational opportunities available to girls, and these in turn are closely bound up with the general problem of the status of women in society, in particular, with the educational and employment opportunities available to women in a given society. The more advanced a society from the point of view of women's emancipation, the greater the possibilities of using the womanpower for economic as well as educational development.

Most developing countries favour in principle improving the social status of women and are agreed that education is the principal means to this end. But the implementation of this principle raises some very difficult questions. For one thing, many developing countries have not yet succeeded in implementing the principle of compulsory primary education with regard to boys; a massive enrolment of girls would create insuperable difficulties, at least in the initial stages. For another, many developing countries are already seriously troubled by the unemployment of male elementary school leavers; would not the problem become much worse if there were a massive influx of girls into primary education? Or would the advantages, such as the acceleration of social development resulting from the education of young wives and mothers, outweigh these disadvantages? Then there is the question of what the education of girls should be, what they should be taught and for what purposes. These are, of course, basic questions of social policy which have far-reaching implications for

the development and utilization of human resources. The project is not intended to answer all these questions, but it could help to clarify them.

The focus would be naturally on women teachers, on the role women could play in the expansion of education, but this role would be viewed in the larger context of the role which the education of women plays in economic and social development in general. In fact, a study on the training and career of women in the teaching profession could throw much needed light on the professional employment of women in general, since the teaching force usually includes a higher proportion of women than any other profession.

The project could be divided into three stages. The first would consist in ascertaining certain general facts about the education of women in a number of selected countries. What is the proportion of women receiving education? How does the education of girls differ from that of boys? What role does co-education play in any given country? What is the place of women in the occupational structure?

The second stage would concentrate more particularly on women teachers, ascertaining numbers, relative salary levels, status, conditions with regard to marriage, pregnancy laws, children etc., and the place of women as school principals, a key role which is of special importance in this context.

The third stage would be concerned with the obstacles to the employment of women in education. How far has the progress of women's emancipation succeeded in providing more teachers? What problems arise for education in this connexion? To what extent have obstacles been overcome and incentives increased with regard to the employment of women in education? The answers to these questions could be provided in the form of concrete examples illustrating cases of difficulties which have been successfully overcome. The aim would be to produce a comparative study on conditions, policies and practices relating to the employment of women as teachers and administrators in education, and to identify the measures taken by the various countries to raise the supply of teachers by putting emphasis on the training and employment of women. The work implied by such a study would involve a series of thorough interviews of women teachers and group discussions among women aimed at finding out the prejudices and special conditions which affect the employment of women in general, and in education, in particular.

13. The Village School Teacher and Rural Development

Many economists have come to believe that rural development - and the increase in agricultural productivity which it brings in its wake - are a prerequisite for the take-off in any industrial development. The whole process of rural development is so vast and complex, especially in a subsistence economy, that it is difficult to approach it directly and comprehensively without being superficial and banal. However, broken up into its components, the problem becomes more manageable, and the purpose here is to approach it from the educational angle, more precisely by viewing it through the eyes of the village teacher. For it is he who, for good or ill, determines the part that education will play in the local community,

and therefore in rural development. It is in the quality of his work, its relevance to rural problems, the degree of support he gets from inside and outside the village that rural development must substantially depend. To be effective, rural schooling must go hand in hand, not only with other educational forces, but also with the essential ingredients of rural development, such as land reform, agricultural credit etc.

The focus of the work proposed here is change in the village and the part the teacher plays and could play in the change if he were suitably strengthened in his work. What part does the teacher play in agricultural development? Does he, perhaps unwittingly, alienate bright village youngsters from their environment? How much validity is there in the thesis that education unfits people for rural life rather than fitting them for it?

The study would start with a diagnosis of present conditions in what may be considered as typical villages. What kind of person is the village teacher? What is his social and educational background? What is his socio-economic status in the community? What is his religious and political status? What are his activities apart from teaching? What are his working conditions, his advantages and his handicaps? What are his opportunities for advancement and his employment options? How and what does he teach the children? Who prescribes it? What facilities, equipment and material does he have at his disposal? What are the results of his work, what effect does it have on his pupils and their parents? What part does he play in adult education and other community activities? How is his work co-ordinated with other programmes aimed at rural development? Who is his supervisor, how is the latter selected and trained, and what are the relations between the two?

The analysis of the present conditions would lead to the next stage - the consideration of the measures which need to be taken in the future to improve the work and status of the teacher, redefine his role in rural development, support his efforts more effectively and integrate them with the other factors of rural development.

The project would thus involve a study and assessment of a number of contrasting situations, some typical ones which reflect prevailing conditions and problems, and other rather unconventional ones where special measures have been taken to strengthen the village teacher and improve the effectiveness of rural education as a force for rural development. Consequently, the investigation has two sides: one concerned with analyzing typical and non-typical villages, the other with evaluating the results and possibly initiating further experiments.

It should be stressed that this vast subject of rural education has already received a great deal of attention from Unesco and FAO. One of the aims of the project should be, therefore, to see what lessons can be drawn from these efforts. The object is not to devise specific formulas or ready-made solutions, but rather to raise some useful questions, to gain new insights and to get, if possible, a new perspective from the viewpoint of the educational planner rather than that of the specialist.

The result of this project might well become a great work, perhaps something along the lines of Myrdal's An American Dilemma, which combined the insights of an economist, a sociologist, and a social anthropologist with a deep knowledge of the potentialities of education for rural development.

One of the important tasks of education is to supply manpower of the right kind and in the right numbers for economic and social development. Manpower projections constitute, therefore, one of the main criteria for determining the priorities between levels and types of education which should govern the quantitative and qualitative evolution of the educational system.

A considerable body of expertise has been built by manpower planners on methods of projecting future skill requirements. These requirements may, on certain assumptions, be translated into terms of educational output and thus serve, at least partly, as criteria for establishing educational targets. The task of the educational planner is to establish such targets taking account not only of manpower needs, but also of the social and cultural requirements of the country.

In the case of developing countries, however, manpower needs are usually pre-eminent as criterion for educational development. Consequently, the four projects contained in this chapter deal with the manpower aspects of educational planning. The first aims at a critical evaluation of the present techniques of manpower projections. The second is concerned more particularly with middle-level technical skills, and the third with high-level skills. The fourth project deals with the popular demand for education and with the problem of bringing it into balance with the economic demand for education.

14. Methods of Manpower Projections: a Critical Evaluation.

The manpower approach to educational planning rests on the assumption that the changes needed in the composition of the labour force can be derived from projections of economic and social development, and that these changes are then brought about by a corresponding adaptation, both qualitative and quantitative, of the educational system. However, there are several methodologies for estimating future manpower needs, and the real problem is to ascertain which is the most suitable

in given circumstances. Some methods rely on estimates derived from projections of the future economic structure, others proceed by extrapolating future changes from past trends, still others derive their estimates from studies of typical firms or from an analysis of the occupational structure of other countries. Each of these methods has its merits and its limitations, and the purpose of the project is to examine them critically in order to provide the best possible advice to countries at different stages of development - and of statistical sophistication. In short, the project seeks an answer to the question, What lessons can be drawn from the body of experience now available?

The work would be divided into two stages. The first would consist in the examination of the literature available on the subject, a review of concrete cases using different methods of manpower projections. The second stage would be a detailed and critical evaluation of these cases with a view to ascertaining how the method worked, where and why it succeeded, and where and why it failed. A certain amount of field work would be necessary to check the results. This evaluation should be made in collaboration with ILO and O.E.C.D. as well as certain aid agencies and individual experts who have had substantial experience in this field.

15. The Educational Content of Middle-level Skills

Among the various groups of skilled manpower required for development and modernization, that of middle-level personnel is numerically by far the most important, and in many countries there are shortages of certain types of these middle-level technical skills. The aim of this project is to overcome or to ease these shortages by evolving improved and accelerated training for skills that are in short supply.

The problem consists essentially in ascertaining

(a) the knowledge and skills that are effectively required for the successful performance of particular types of jobs, as distinct from the knowledge and skills that are

conventionally assumed to be required, and

(b) the type of education and training really required for imparting such knowledge and skills, as distinct from the type of education and training which is conventionally assumed to be required.

The aim would be to provide an educational basis more in keeping with the real demands of particular jobs, and to evolve more rapid and effective methods of training for these jobs than the conventional methods used at present.

The project could be divided into three stages. The first would consist in identifying the key sectors where skill shortages are likely to be most acute. This could be done by a thorough statistical examination of the distribution of skills in a number of selected countries with different levels of G.N.P. and a different sectoral distribution of manpower (as between agriculture, industry, and services, for instance), coupled with an examination of the educational background of the different skills. This procedure would lead to the identification of skills which are likely to be in short supply in developing countries.

The second stage would consist in breaking down each of these skills into its components in order to determine the real qualifications required for the effective performance of a given job. This would necessitate the actual study of the jobs and of the component skills it requires - or does not require -, interviews of employers and supervisors etc. The object would be to propose new patterns of staff that might be easier to produce and better suited for particular jobs, as well as more adaptable to job changes.

The third stage would aim at determining the kind of education and training required for these new patterns of middle-level personnel. One way of doing this would be by examining the educational and training background of people who perform a given job well and of those who perform it badly. But in general, the third stage would consist

essentially in translating into educational terms the results obtained in the second stage.

16. Adapting Professional Training to the Needs of Developing Countries.

Many developing countries have adopted, more or less blindly, the professional training programmes and standards which obtain in the advanced countries. It may be doubted, however, whether these programmes and standards are appropriate to the needs of the developing countries. To take the medical profession, for instance, brain surgery or skin grafting are of far greater importance in a highly-developed country than in, say, an African country where the main problem is how to eliminate mass killers. The type of doctor needed for Africa is quite different from that needed in the U.S.A.; he may require more or less training than his counterpart in the U.S.A. but he certainly does not require the same kind of training. And he probably requires more para-medical help than his American colleague. Similar considerations apply to other professions, such as engineers, agronomists etc. It therefore becomes necessary to review the methods and standards of professional training for developing countries, and this project aims to do for high-level personnel what project 15 is intended to do for middle-level personnel.

The work would fall into two parts. First an assessment must be made of the growth of professions and sub-professions in a number of developing countries, and of the effect this growth has had on educational and training programmes. A number of studies have been made on the education of engineers, scientists, teachers etc., and these could serve as models. In the second stage, an assessment would be made of the adequacy and appropriateness of the training in various circumstances, and of the effect of para-professionals on the effectiveness of an qualification requirements for full professionals. This assessment should be made by or with the help of the professional groups themselves so as to

involve them in a critical evaluation of the appropriateness of their training and standards.

17. Adjusting Popular Demand to the Manpower Needs for Education.

Educational planning must take into account not only future manpower requirements, but also the prospective social and cultural demand, i.e., demand on the part of the population considered as the ensemble of private individuals. It is generally assumed in most developing countries that the demand for education is unlimited, that if more schools were available they would immediately be filled. But sometimes technical schools are built and staffed but not filled, simply because technical education may be spurned in that particular country. The fact is that each country has its pattern of demand for education, and this pattern is not necessarily the one which economic necessities would require. Thus, if the educational system is adapted primarily to social and cultural demand, the resulting pattern of school leavers and graduates may not correspond to the pattern of skills required for development, because private choices in education often reflect social conditions traditions and prejudices rather than national economic needs. On the other hand, if the educational system is adapted primarily to the needs for skilled manpower with little or no regard to private demand, some of its capacity may just lie idle, and there may be considerable public dissatisfaction.

The problem then is to find out

- (a) where private demand and economic needs deviate most seriously, and
- (b) what can be done to alter private demand so that it should accord with economic needs.

The first thing, of course, is to determine what methodologies can be used to assess private demand. It should be borne in mind that the relationship between economic and social development, on the one hand, and educational

development, on the other, is a reciprocal one: they stimulate each other. For the purpose of this research project, a distinction should be made between the overall demand for education, and the pattern of demand, i.e., the demand for different types of education.

Overall demand

With regard to overall demand, it will be important to ascertain the extent to which the expected rapid increase in the number of educated people will accelerate the total demand for education - and incidentally also alter educational patterns. What is the income elasticity of demand for education in countries at different stages of development? What can be done to damp down overall demand when it outruns any possible supply, or, on the contrary, to stimulate education among backward groups or in backward areas? For education within a country tends often to be concentrated in certain areas or among certain groups, and the social change which arises from migration or from the economic development of certain areas will produce sudden spurts and lags in the demand for education. In other words, certain trends will have to be initiated, while others will have to be mastered by policy.

The research would then consist, first, in an attempt to forecast what is likely to happen in the absence of any major policy action, what for instance, would be the cumulative rate of increase in the total demand for education as a result of economic and educational growth; second, in an attempt to devise the major policy tasks with a view to initiating or mastering educational trends; and, third, in identifying any institutional factors affecting demand or policy and dealing with them according to the needs of the case. The research would thus imply an examination of the various socio-economic factors which affect the total demand for education - demographic trends, social change,

including the rate of urbanization, shifts in family incomes, shifts in occupations, educational experience of parents, etc. in order to ascertain which of these factors lend themselves readily to measurement.

The aim is to evolve a practical methodology to assess present and future demand for education. Such a methodology has been developed to a certain extent for the needs of the advanced countries, and it only requires appropriate modifications to fit the needs of the developing countries. The research should, therefore, be initiated in one or two developing countries where the difference between supply and demand is particularly accentuated, and it could be carried out as a contribution to educational planning in such countries.

The pattern of demand

As already mentioned, the demand for education reflects social traditions and prejudices as well as present and past conditions. The kinds of education that are in demand correspond to present economic and social opportunities, not to future openings which are inherent in economic and social changes and of which neither parents nor pupils are usually aware. An important task of educational planning is, therefore, to guide the demand for education in accordance with tomorrow's realities. The problem for investigation is how this can be done in practice.

Here, as in the case of overall demand, the work would consist in ascertaining what is likely to happen in the absence of any policy action, what, theoretically, are the possible measures capable of shifting demand, which of these measures have been tried, and what effect they did have. Would a reorientation of educational capacity prove effective? If new technical schools and new agricultural extension training schemes are established, will they find pupils? If not, what incentives can be devised to raise the demand for this type of education and training? What would be the cost of these incentives and what effect would they have?

This project would be suited more particularly to a country in Asia, where intellectual unemployment is common, and to a country in Latin America, where the pattern of educational demand is conspicuously at variance with the needs of economic and social development.

CHAPTER 6. THE PLANNING PROCESS

As was emphasized at the outset of this report, educational planning is something more than the elaboration of targets on paper: if it is to affect the course of events, it must involve not merely planning technicians, but those who have the power of allocating the resources for its practical implementation and those who have the charge of implementing it. Educational planning is not something that can be created overnight; like any other social process, it must grow through a series of stages, and cannot even begin to have any effects until its essential foundations are established. These foundations comprise not only good working tools in the form of methodologies, but also favourable environmental conditions - effective organizational and administrative arrangements, competent staff, and, above all, strong support of political leaders and public opinion born of the conviction that education is important and deserves high priority.

The three projects in this chapter deal therefore with educational planning itself. The first would be a series of case studies (two of which are already being carried out by IIEP) of the actual experience of a number of selected countries in educational planning. These comparative studies would cover the political and administrative background, the extent, if any, to which educational planning is integrated with economic planning, the structure and organization of the planning machinery, the means by which priorities are established, decisions taken and plan implemented. They would be carried out within a well-defined framework in order to enable comparisons to be made. The aim of the project is to provide a basis for certain generalizations about the planning process itself.

This would be the object of the two following

projects. One would attempt to uncover and describe the evolution of the educational planning process, the other to analyze and define the organizational and methodological aspects of planning. Both would be based on the raw material provided by the country case studies.

18. Country Case Studies

Clearly, the richest source of new knowledge about educational planning is the actual experience of countries which have tried it. Though requiring a solid theoretical background and a good methodology, educational planning is essentially a pragmatic process of trial and error, and every country has much to learn from the successes and failures of others. By examining thoroughly a number of cases, it should be possible to identify the essential conditions required for successful educational planning as well as the conditions which are inimical to it. Some of these adverse conditions may be manageable, others not. It may thus be possible to judge whether, in given circumstances, educational planning has a real chance of succeeding, or whether it is just a waste of money and efforts.

The case studies should be broad in perspective, largely taking into account the political, social and economic factors which have a bearing on education. The broad framework within which to conduct such studies might be as follows.

First, the background to educational planning, comprising an analysis of the events which led up to the adoption of planning, and the constitutional and legal position of education. Three fundamental questions which will have to be studied in this connexion are the relative importance of political and administrative stability, of public participation in and support for the plan, and of leadership for the eventual success of the plan. It may also be of interest to consider examples where, in the absence of adequate political leadership, administrators

have assumed political roles.

The second series of problems would deal with the relationship of educational planning to economic and social planning. Consideration should be given to examples of isolated educational plans having no links with economic planning, and also to plans with no adequate financial arrangements. To what extent has the link between educational and economic planning affected the success of the former? What machinery and techniques can be used to achieve or strengthen this link (e.g., budgetary means)?

The third series of questions would be concerned with the process and methodology by which objectives and targets are established. What is the relative effectiveness of political and technical factors in setting the targets? To what extent has the interplay of these two factors contributed to the success or failure of the plan? What is the role of detailed technical preparation and how does it affect the implementation of the plan? To what extent do very high or very low targets stimulate or inhibit growth, whether they be long-term or short-term, local, regional or national, or relating to such aims as meeting manpower requirements, or the education of women, or teacher training, or the quality and standards of education? A particularly important question in many countries is whether and how the private sector of education has been brought into and affected by educational planning, and whether the university community has played a role in it. Another matter for study is the balance between the various levels and types of education and their respective costs. It would also be necessary to examine in detail the technical exercises and methods used to establish targets and ascertain how far the targets thus established are realizable.

Another series of questions would deal with the structure, organization and administration of the planning

machinery, its location, whether it is autonomous, advisory or executive, how accessible it is, what its links are with economic planning, with the ministries concerned with any sort of education or training, and, above, all, with the centres of power where the final decisions are taken. Attention would also be paid to administrative personnel and its training, and to the role of external assistance in these matters.

The last series of questions would be concerned with priorities and the implementation of plans. What are the policies, objectives and strategy governing the choice of priorities and their programming? How much attention is paid to practical realities, such as the scarcity of personnel and of financial resources, or the quality of personnel charged with the implementation of the plan? How far has the availability of financial resources affected priorities? How realistic is the teacher training programme? How do the priorities implied in the programmes actually evolved compare with the priorities originally drawn up in the plan? What is the extent of analysis before the approval of the project? What are the criteria for judging the success of the plan? How are the results of this appraisal fed back for the future improvement of the plan? It would be necessary to measure the progress of the educational system under the plan - enrolments, age distribution, wastage - in relation to such indicators as the cost per school leaver or graduate and the output of the system. The number of classrooms and their utilization, the regional breakdown of costs, output etc. must also be taken into consideration. A basic question to be studied is the extent to which this progress is attributable to planning. It would also be necessary to examine the ability to support the existing programme with special reference to the role which external assistance could play in this respect.

The practical realization of this project would fall into three parts. The first would consist in a thorough and extensive examination of all relevant literature - educational and economic plans, country reports, documentation on the historical, political, economic and social backgrounds to educational planning, statistical facts etc. This would be followed by field work and interviews of people involved in all the stages of the planning process. These interviews would have to be conducted within a systematic framework to be developed by a pilot survey. The information and data thus obtained would then have to be evaluated and put in the form of conclusions.

Two country case studies, one on France and the other on the U.S.S.R., are already being carried out by IIEP, which hopes to undertake, in co-operation with other organizations, similar studies on a number of developing countries. Such studies are fundamental to several of the projects suggested in this report, and they provide the basis and the raw material for the next two projects.

19. The Evolution of the Educational Planning Process

This project is really a continuation of the previous one and consists essentially in rationalizing the data, information and conclusions derived from the country case studies with a view to discovering the morphological evolution of the educational planning process. Like any other social process, educational planning evolves gradually through a series of stages: it must walk before it can run. But this process has yet to be clearly described, and meanwhile no criteria are available to allow a country to judge how far it has progressed and at what stage of the process it finds itself.

The aim of this project would be to remedy this situation and, by revealing the gradual evolutionary stages

of the educational planning process, provide criteria for assessing the progress achieved - what steps must be taken before planning proper can be started, what is the stage reached at any one moment, and what steps have to be taken in order to reach the next stage. No doubt, the criteria thus evolved can never be wholly objective or "scientific", but certain broadly agreed judgments, built on a good deal of past experience, could perhaps be arrived at, and these would be of great value in enabling aid agencies as well as governments to judge their progress and assess the value of their work.

20. Organization and Administration of Educational Planning

This project is another extension of project 18, but its aim is to define, on the basis of country case studies, the organizational arrangements and administrative procedures best suited for a sound formulation and successful implementation of educational plans. It would again consist essentially in drawing the logical conclusions from the data and information contained in the country studies. If such information were not complete enough, a series of special case studies focussed on administrative and organizational aspects of educational planning would have to be initiated. These would deal, in addition to the questions raised in project 18, with such problems as the geographical aspects of planning, i.e., the co-ordination between centralized and regional planning, the mechanism needed to ensure that sufficient attention is paid to educational innovation, research and development, and the use of extraordinary procedures as distinct from normal ones in the implementation of the plans.

CHAPTER 7. INTERNATIONAL ASPECTS OF EDUCATIONAL PLANNING

The last decade has witnessed a dramatic increase in the extent and variety of external assistance in the educational field. This assistance, while representing in most cases but a fraction of the recipient country's educational effort, can have an influence out of all proportion to its magnitude.

This is especially the case of aid for educational planning: much of the impetus for planning education has come from international organizations and bilateral aid agencies. Unesco, in particular, has made a major effort in this field through its regional conferences and training programmes, the advisory help on planning it has been giving to Member States, more recently in co-operation with the World Bank, and not least by taking the initiative in establishing IIEP.

One of the important tasks of educational planning, in addition to achieving a better use of the country's own educational resources, is to render external assistance for education more efficient and more effective. Such assistance takes, of course, many different forms, such as supplying teachers and equipment, making loans or grants for facilities, awarding fellowships for studies abroad etc. The projects contained in this chapter relate to these particular aspects of educational planning.

21. Strengthening Educational Planning through External Assistance.

The aim of this project is to ascertain how external assistance may be used most effectively for strengthening educational planning. There is little doubt that useful lessons can be drawn from the rather substantial body of experience accumulated during the past half dozen years or so.

The main questions which the study should seek to answer would be the following. What are the proper functions

of short-term and longer-term educational aid missions respectively, and which are best suited to what purposes? What are the best ways of helping to form personnel for educational planning? How can outside agencies best help in building statistical, research and other services required for effective planning? What other outside help would be useful in strengthening educational planning? Of what value are periodic inter-country reviews and confrontations as a means of evaluating and improving each country's planning activities, and how can the lessons of each country's experience best be made available to other countries? What are the problems raised when a country receives assistance from more than one agency, and how have these problems been dealt with? What is the order of magnitude of future requirements for educational planning experts in each major region of the world, and how can these needs best be met?

The project would be carried out in two stages. The first would consist in a thorough study of all the documentation available on the subject with a view to finding the relevant clues and examples. This would be followed by field investigations in a few selected countries focussed upon the role external assistance has played in the initiation and growth of the process of educational planning. These field studies would have to be carried out in close-co-operation with both the country officials and the donor agency officials concerned. Such analysis could lead to the emergence of some useful guidelines for both the recipient countries and the external aid agencies.

This project could be carried out most efficiently within the context of country case studies providing a broader view of external educational assistance, such as those suggested in the next project. If this were not possible, the

study would have to be confined to this particular topic and carried out in a number of selected countries.

22. Improving the Effectiveness of External Aid by Educational Planning.

In the opinion of many persons of experience, educational planning is one of the principal means of improving the effectiveness of external assistance. It reveals the strategic points at which the application of external assistance and resources can exert the greatest effects, and thus provides a better basis for establishing foreign aid priorities; it is the best and perhaps only means of ensuring that foreign aid is effectively and harmoniously fitted into the recipient nation's own educational development effort and priorities; and lastly, it, and it alone, can provide the basis for co-ordinating educational aid from several sources.

This project is intended to explore these propositions and, if possible, to discover some useful guidelines for improving the effectiveness of external aid through educational planning.

The first step would be to draw a comprehensive picture of the educational assistance received by a number of sample countries in recent years, and to identify the factors that made for difficulties as well as those that were helpful. This would be followed by a more intensive study of a number of specific external assistance projects in these same countries. Some of these projects would be selected on the grounds that they are generally considered as having been successful, others on the grounds that they are considered to have been relatively ineffective. A thorough analysis of these projects, carried out with the help of both local and external assistance experts familiar with them, would then seek to identify the principal factors involved in their initial conception.

Such examination of the experience of a number of

selected countries could provide answers to several important questions. For instance, what are the psychological, political and institutional problems that must be taken into account in planning external assistance? To what extent has external aid helped in bringing about desirable changes in the content and structure of the educational system? What was, is, and is likely to be the role of expatriate teachers? In cases where external aid has been provided from several sources, what co-ordination, if any, has been achieved between them? What impact, budgetary and other, has external aid had on the receiving countries? What effect did it have on the establishment and development of educational planning? And how did educational planning, in its turn, contribute to a more rational pattern and utilization of foreign aid? Most important, perhaps, what particular kinds of aid seem best suited to given situations, and what are the crucial factors in the success of external aid projects?

If some light could be thrown on questions such as these, external assistance and its integration with the plans of recipient nations would become much more effective. A prerequisite for carrying out this delicate and difficult project would be a close co-operation with and confidence of donors and recipients alike.

23. Adapting Imported Educational Models.

One of the difficult problems, particularly in ex-colonial territories, is that of adapting imported educational models, practices and philosophies to cultural and economic settings which are very different from those in which these models originated. In most developing countries one can find a (French) lycee or a little Sorbonne, or an (English) grammar school or little Oxford, or an (American) comprehensive high school, trade school, teachers' college or land grant

college. The temptation, of course, is great to adopt these models more or less blindly; they carry prestige, they have worked where they came from, and it is easier to duplicate an existing model than to create a new one. But what is good for one country is not necessarily good for another. More often than not, the imported model requires considerable adaptation if it is to be of any use, or even if it is not to be positively harmful. The aim of this project is to explore how imported educational models can best be adapted to the peculiar needs of developing countries.

This is an exceedingly complex problem, especially when a developing country is receiving aid from several other countries and adopting blindly now one, now the other of their various educational models, thus running the risk of ending up with an educational system which is a patchwork of ill-fitting parts rather than a coherent and viable whole. It would be vain to expect that any one piece of research could provide a clear-cut and final solution of this problem. But even exploratory research, if carried out perceptively, could yield some useful results and open the way to a more orderly and thorough investigation of this problem.

Here again the best approach would seem to be a series of comparative country case studies focussed on specific sectors of education and on specific problems. It would be of special interest to contrast a number of cases where imported models were introduced without any real effort to adapt them to local conditions with other cases where a determined effort was made to adapt such models to local needs.

24. The Role of Expatriate Educational Personnel

Many newly independent countries, especially in Africa, have had to rely heavily on foreign teachers and administrative personnel, particularly in secondary and higher education and at the higher administrative levels. The number of

expatriate teachers required by many of the plans now being formulated is so great that there are serious doubts whether more than a fraction can actually be provided, especially in view of the serious teacher shortage in the developed countries and the heavy competing demand for qualified manpower in general. This situation raises three important questions. First, how can the expatriate educational personnel that is available be used to the greatest advantage? Second, what practical steps can be taken gradually to reduce the dependence of developing countries upon expatriate personnel? Third, what can be done meanwhile to provide an adequate supply of expatriate teachers to meet transitional needs?

The first thing is to assess the quantitative dimensions of this problem. It should be possible to estimate very roughly the number of new teachers and educational administrators of various levels that will be required by a sample of developing countries over the next ten years; the numbers which these countries are likely to be able to provide themselves under present plans and conditions; and the personnel gap which would have to be filled from outside sources.

The next step is to examine the practical possibilities of filling this gap. To what extent, for instance, do the most urgent needs of the developing countries (teachers of science and mathematics and educational administrators, in particular) coincide with the needs and shortages of the sending countries? Where this is the case, what alternative solutions are possible? What is the attractiveness of educational service in foreign countries? In particular, what terms of employment and assurance of eventual return home without prejudice to the career is necessary to ensure a maximum supply of educational personnel?

Lastly, there is the question of the most effective utilization of expatriates. What problems arise,

for instance, when expatriate teachers are used alongside local ones? Can expatriates successfully occupy important supervisory positions, such as inspectors, principals and vice-chancellors, and how can the transition best be made to fill these key posts with nationals of the host country? In the use of foreign personnel, should priority be given to the training of local teachers or to teaching in schools and colleges? What are the qualifications essential for effective educational service abroad, and what preparation is necessary, particularly with regard to the language and the culture of the country in which service is to be taken up? Who should provide this orientation? What nationalities are most suitable for employment in given circumstances?

The project should attempt to develop some strategies aimed at gradually reducing the dependence of developing countries on expatriate personnel, while meantime ensuring the most effective use of this personnel.

25. Raising the Effectiveness of Study and Training Abroad.

Even the most advanced countries derive great benefits from sending some of their students to study or complete their studies abroad. Developing countries are, of course, dependent to a far greater extent upon the educational and training facilities of more advanced countries. Only by sending some of their best people to study abroad are they able to meet their most urgent manpower needs for development, not least the personnel required to staff and administer their own educational institutions.

The flow of students from the developing to the advanced countries has increased considerably during the last ten years. But in the opinion of many people with experience of this problem, this flow has been disorderly and has given rise to a good deal of waste. The object of this project

would be, therefore, to examine broadly this flow with a view to eliciting the measures by which educational planning could improve its productivity and effectiveness. The study would not be primarily statistical, but enough statistical data would be gathered to assess the quantitative dimensions and relative importance of the various factors involved. The emphasis would be on the practical means of improving the effectiveness of study abroad, particularly on the following problems.

1. Analytical methods for determining priorities for study abroad in the light of the country's manpower requirements and of the capability of its educational system of meeting them.
2. The selection, in the light of these priorities, of students and trainees to be sent abroad, and the preparation necessary for these studies, including language competence and an understanding of the real purpose of these studies.
3. The selection of the countries and institutions most suitable for a given education or training.
4. The creation of educational and training facilities, or the adaptation of existing facilities, in the receiving countries to fit the particular needs of foreign students and trainees.
5. Measures for ensuring the return of the students for service in their own countries, such as incentives, job opportunities, job placement machinery.
6. Arrangements for providing continuous professional refreshment for those who have returned home from studies abroad so that they may keep pace with any progress in their respective fields.

The study should also seek to identify and analyse the various choices open to planners and policy makers in this field. For instance, what is the best balance between study

abroad and putting the corresponding effort into strengthening indigenous institutions? Or between undergraduates and post-graduates to be sent for study abroad? Or between studies abroad in highly specialized fields and more general fields? Or between sending abroad groups tied to specific domestic projects and sending unaffiliated individuals? To what extent should governments impose constraints upon the career choice and the freedom of movement of individuals? All these are questions which need clarification, but the final answers must, of course, be provided by each country in the light of its particular needs, traditions and system of values.

The realization of this project would require a systematic examination of the past and current experience of a number of receiving countries and a good cross-section of sending countries. The magnitude of the task is likely to exceed the capabilities of any one research institution, and, in any event, the best way to pursue this project would be through a partnership between several institutions, each with a research team in one or several sample countries. These teams would operate within a well-defined framework - which would have to be elaborated - so that their separate results could be synthesized in the form of a coherent whole. The realization of the project would also require the full co-operation of the governments of the sample countries and of the other institutions involved, particularly the universities.

INTERNATIONAL INSTITUTE FOR EDUCATIONAL PLANNING

SUMMARY OF THE INSTITUTE'S
PROPOSED RESEARCH PROGRAMME FOR 1965-66

EDUCATION COMMISSION
UNIVERSITY GRANTS COMMISSION BUILDING
BAHADUR SHAH ZAFAR MARG
NEW DELHI

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BACKGROUND

The International Institute for Educational Planning was established in 1963 as a world center for research and training in educational planning, viewed in the broad context of overall national development. Created by UNESCO, in cooperation with the World Bank, the French Government and the Ford Foundation, the Institute functions autonomously under the direction of an eleven member board, chaired by Sir Sydney Gaine, the Director of the London School of Economics (See appendix for full list of Board Members). Its Director is Philip H. Coombs, former Ford Foundation Program Director of Education and former U.S. Assistant Secretary of State for Educational and Cultural Affairs. The initial staff includes some ten professionals with extensive experience relating to educational planning, including: Raymond Poignant, a member of the Council d'Etat who for several years headed French educational planning; John Vaizey of Oxford University, well-known for his writings on the economics of education; Guy Benveniste who did international research at Stanford Research Institute and was an education specialist at the World Bank; Raymond Lyons who directed the Mediterranean Regional Project and was importantly involved in other OECD activities in this field; George Skorov who served with the Economic Analysis Division of UNESCO and earlier with the Soviet Institute of International Economics; and Hector Correa, author of an important book in this field and of well-known articles with Prof. Tinbergen, and who has had practical planning experience in Latin America.

Besides its regular staff the Institute has a Council of Consultant Fellows which includes two dozen leading world authorities in this field from various disciplines of geographic regions (see list in Appendix). Members of

this Council participate in the research and training activities of the Institute according to their fields of specialization.

During its first year the Institute undertook with the help of numerous research experts and development officials throughout the world, to identify the practical problems of educational planning on which further research and analysis is more urgently needed. This effort culminated in a ten day seminar convened by the Institute in July 1964 at Bellagio, Italy, where some 30 leading research experts and development officials from 14 nations achieved a general consensus on major research needs in this field (see appendix list of participants). The results of the Bellagio Seminar are being produced by the Institute as a guide to research organizations throughout the world. The Institute has also published a Directory of such organisations and annotated Bibliography on educational planning.

In light of the above findings, the Institute has now made an initial selection of its own research priorities taking into account its own special characteristics and capabilities. These include: (a) its primary interest in research that might contribute in the relatively near future to the solution of practical operational and policy problems, (b) its international character and hence its ability to tap scarce research talent from a wide range of countries, (c) its relatively favourable access to research data in more than 100 countries, and (d) its cooperative relationships with a variety of international and national operating agencies, universities and research organizations.

In selecting its priorities the Institute has felt it wise to concentrate on a relatively small number of related projects in order to dig more deeply and develop strengths along a few lines and to ensure a well integrated

and coherent overall research programme. The projects chosen related to three central themes: (1) the costs of education; (2) the methodologies and process of educational planning (including implementation), and (3) certain international aspects of educational planning.

The Institute has only modest funds in its regular budget for making a start on the research projects. For a really significant research effort it will require supplemental support from individual governments, foundations and other sources. It is hoped that long term research support -- for three years or longer -- can be obtained from interested sponsors in order to permit advance planning and staff commitments and an orderly, efficient research approach. With such support the Institute will be able not only to strengthen its own direct research capabilities but also to harness the capabilities of other research institutions on a cooperative basis.

What follows is a brief outline of the Institute's tentative research priorities. Fuller plans are in process of development and will be supplied on request to any interested potential sponsors.

FIRST RESEARCH AREA -- THE COSTS OF EDUCATION

The costs of education are of major concern to educational planners but present one of the weakest areas of knowledge. Sooner or later all education plans must be translated into cost figures (including manpower and other "real" costs as well as financial costs) to assess their economic implications and feasibility. Equally important, comparative cost data are essential to making wise choices among alternative educational approaches priorities and allocation patterns. This applies both to the use of domestic resources and external aid. Yet there is today a dearth of information about actual and prospective education costs, particularly in developing countries and a shortage of practical methodologies. Thus, there is need for research, not only on what the costs

of education are but what they could be if certain changes were introduced.

The proposed research programme would be subdivided in a number of distinct studies, of which the following are illustrative:

Project No.1: Opportunities for reducing the costs of raising the productivity of education.

The advance of education requires not only the investment of larger resources but the more effective use of resources already available to education. There can be no doubt that considerable room exists for reducing wastes and making more efficient use of presently available resources in virtually all educational systems. The need for achieving more efficient and effective use of educational resources is especially imperative in developing countries that can ill-afford to waste scarce resources. A project which would identify and examine practical ways of achieving cost savings in education compatible with preserving or improving quality, could provide useful guide lines to planners and administrators in all countries, particularly if it was based wherever possible on actual cases of demonstrated results. A study would review how significant cost savings were achieved in the educational system of both industrialized and developing countries. It would describe significant achievements in several principal areas: school construction and maintenance costs, space utilization, laboratory equipment, text book production, teaching training, teacher utilization, administrative costs and the cost of student drop out (the latter being perhaps the largest economic as well as human waste in the educational systems of most developing countries).

The study would analyse the different types of approaches that have been used to achieve cost savings (i.e. standardization, mass production, cooperative regional projects, etc.) and generalize from the available evidence what are promising approaches in developing countries.

Especially heavy attention would be given to two of the above potential areas for cost savings: the better utilization of scarce teaching talent and the fantastic wastage due to excessively low rates of retention of students. On both these topics specialized sub-studies would be conducted looking at alternatives, their cost and their implications for policy making.

Project No. 2: Unit costs of education in developing countries at various stages of economic development

There is need for cost "norms" based on "austere but adequate" standards so that planners in developing countries can insure that the rapid expansion of education systems will not entail severe deterioration of the quality of education. These norms must be adjusted to reflect the level of economic development of countries.

Such "norms" would first require a study of the unit costs of education in a sample of developing countries to determine 1) the principal cost components of each part of the system together with an analysis of how these costs vary as educational systems expand and as GNP per capita rises; 2) to what extent average costs of existing education systems seem to be lower or higher than "minimum effective" costs based on the cost of samples of well designed schools, adequately staffed with qualified teachers and adequately supplied with instructional equipment and materials.

Such a study would examine in each country the ratio of recurrent to capital expenditure and of administrative to direct educational expenditures. It would analyse the principal cost components of each of these categories and examine how future cost trends for these components can be estimated. Particular attention would be given to the costs of school construction (including how much can be covered by local currencies and how much requires foreign currencies) and the future recurrent costs for maintenance and operation to which new construction commits a developing country.

To estimate cost "norms" - by which a country could evaluate its performance - it would be necessary to establish "austere and adequate" standards that provide

for salaries adequate to attract good teachers, buildings efficiently designed and maintained, and a minimum of books, equipment and supplies. Cost data from a sample of "model" school systems could be used for this purpose.

This study would require a major research effort but the results would greatly assist the work of planners and of aid agencies who now have no standards by which to judge the appropriateness of the norms which are consciously or unconsciously used in existing education plans and project proposals.

Project No. 3: Cost implications of new educational techniques

Most thoughtful educators realize that the solution to the problems posed by the need for rapid quantitative expansion and qualitative improvement of education in developing countries call for radically novel approaches and new educational technologies.

In recent years a considerable amount of research and experimentation has taken place both in industrialized and in developing countries to create and test out new technologies of education -- such as the use of programmed learning, films, radio and television, and various creative approaches to teaching the sciences. Thus far, however, these experiments have been evaluated almost exclusively in terms of their educational effectiveness. The economic feasibility of their practical application on a large scale has yet to be determined. How much do these approaches cost compared to conventional methods? How might they be combined and used economically in the context of the realities prevailing in developing countries?

The research would answer the following questions: What are major education problems or bottlenecks where these new approaches could be useful? How could the various techniques

be combined to solve these problems or bottlenecks? For what type and level of education programmes does it make practical sense to use these new approaches? How much would they cost? How do these compare with conventional ways of meeting educational needs? To answer these questions, intensive studies would be made of the economic aspects and implications of a series of existing and future experimental projects in various countries.

Project No. 4: Cost of experimental literacy programme

Illiteracy is a major concern of most newly developing countries and of many international and bilateral aid agencies. During the coming years renewed efforts will be made to wipe out illiteracy and with this concern in mind UNESCO is contemplating undertaking an important programme, beginning with several experimental literacy projects.

A study of the cost of literacy programmes could be undertaken in close cooperation with UNESCO to determine the economic implications of these and other experimental programmes, in terms of both costs and benefits. Such research would help determine the economic feasibility of applying particular approaches on a larger scale under various circumstances. Particular attention would be given to both the economic and practical possibilities of using new mass media techniques for this purpose and of drawing heavily on local resources. This research would be closely related to the preceding one on new techniques.

Project No. 5: The comparative costs and results of alternative approaches to vocational education

A considerable portion of the resources of governments and of aid funds are devoted to vocational education projects, which usually costs much more than non-vocational education. Planners are legitimately concerned to find out

what are the most economic means of meeting the vocational skills needed in newly developing countries.

Training can be provided in formal vocational schools or by "out-of-school" programmes, such as special "accelerated courses", "on-the-job" training and the like. Training can be provided in conjunction with general education over a period of years or it can be provided in accelerated form in a matter of weeks or months. Obviously the results differ: each approach has its own advantages and limitations.

A series of studies would be undertaken of the factors that can be taken into account by planners when deciding between different forms of training for medium level skills. Such studies would be preceded by a selection of the skills which are most needed in a sample of developing countries, and by a study of the exact nature of the skills required by a sample of employers in these countries.

A manageable number of medium level skills could be selected and grouped in a small number of different categories. A comparative analysis would then be made of a series of specific cases of alternative forms of training in a sample of such countries.

The focus would be upon factors that must be considered when selecting between alternative forms of training. For example, to what extent can these different forms of training be substituted one for the other? To what extent are they complementary? How can combinations of them be used most effectively and economically? What approaches would seem to make more sense in selected developing countries?

This work would be carried out in close cooperation with UNESCO and ILO.

PROGRAM AREA "B" : THE PROCESS OF EDUCATIONAL PLANNING

Formulating an educational plan on paper is obviously not enough. Too many plans to date have ended up on shelves and not been implemented. Planning is conceived by the Institute to be a process which extends to the practical context -- including the social, economic, organizational, administrative and political conditions and environment -- which basically determine the feasibility and the degree of success of educational planning efforts. This programme of research will concentrate on special problems of methodology and on the organization, administrative and implementation aspects of planning. Valuable experiences and methodologies have been developed in a number of different countries with different economic and social systems. Systematic study of these experiences and of some of the methodologies may yield useful insights into what makes the planning process work effectively, what inhibits it, and what might be done to make it work better. The Institute is in a strong position to contribute to research in this field since it can obtain access to the experience of many countries where important advances have been made in educational planning and development, as well as access to the experiences and records of major international and bilateral assistance agencies relating to such countries.

Project No.1 : Case studies of the administration and implementation of education plans

A set of detailed studies of the recent educational development efforts of a cross section of countries with particular reference to administrative practices of countries with educational planning experience would provide valuable guide lines on how these countries have solved (or failed to solve) the following problems:

(a) The institutional framework and process for the formulation of the plan; i.e. participation of teacher

organizations, parent groups, student organisations, administrators, business and agricultural groups, the private education sector, the universities in the setting of objectives and plans; the links with overall and regional planning bodies, with other government agencies, with regional or state government levels, and with aid institutions.

(b) Means for giving attention to educational innovation, research and development as an aspect of planning for changes in education.

(c) The fact finding research and analysis services needed for planning. Role of government services, universities and private institutions, role of aid agencies, foreign experts and research groups.

(d) The procedures for getting final approval and budget actions on plans.

(e) The institutional framework and procedure for the implementation of plans; (distinguishing indicative from imperative planning). The use of program budgets, the use of normal implementation administrations and "extra-ordinary" institutions.

(f) Geographical aspects of planning: How is centralized planning coordinated with regional planning? The geographic breakdown of implementation responsibilities and related matters.

ILTP has already initiated country case studies of the practical planning experience of the USSR and France which are scheduled for completion in 1965. A number of comparable studies now need to be undertaken in a cross section of developing countries that will provide the basis for comparative analyses. The studies of the Institute will typically be undertaken by national teams of experts working in cooperation with a group of international experts under ILTP

direction. These studies should yield a valuable stockpile of basic information useful to further research on specific topics.

Project No. 2: Studies of the practical usefulness of various methodologies for educational planning

Many different methodologies are used in the elaboration of education plans. A critical evaluation of these various methodologies as actually applied in particular countries, such as those used in elaborating future manpower requirements, would provide needed guidance for developing countries.

Such an evaluation would take into account factors as the availability and reliability of the basic statistical information needed to use these methodologies, the type of research that must be undertaken and the type of personnel needed to undertake this research, the "coverage" provided by each methodology, the issues it can help resolve and those it cannot resolve, the time required to obtain adequate results, the reliability of these results and the degree of sophistication needed to interpret the validity of these results. (The Institute staff is thus far impressed with the tendency to use "over-sophisticated" methodologies in many situations - leading to delay, frustration and sometimes utter failure.)

Out of this research the Institute would prepare a series of manuals for use by planners. This new literature should help provide planners and policy-makers with practical guidelines about the potential technical usefulness of different approaches to the planning of education and help clarify the relative usefulness of complex planning exercises.

PROGRAM AREA "C" : THE INTERNATIONAL ASPECTS OF EDUCATIONAL PLANNING AND DEVELOPMENT

As an international research institution, the Institute is concerned with helping to improve all international aspects

of educational planning and development through applying scientific research and analysis to increasing the effectiveness of such aid and improving the processes of rendering and receiving external assistance for educational planning and development. As a disinterested party, the Institute is in a good position to take a fresh and objective view of the experiences of various nations and operational agencies on both the donor and the receiver end.

Project No. 1: A study of the opportunities and problems related to the international flow of students and trainees

Most educational planning has ignored the vital flow of manpower from developing to developed countries for training or formal education. The size of this flow has expanded enormously and its annual cost to all concerned is very large. There is no doubt that this flow is exceedingly important to meeting the specialized manpower requirements for national development which most developing countries cannot yet meet with their own educational institutions - including the manpower required to expand and strengthen their own educational system. But there is also little doubt that there is enormous wastage in this flow - for example, often the wrong people are selected, or sent to the wrong place, or study the wrong thing; many fail to return home, or if they do they are not fitted into employment where their new knowledge and skills will do the most good; and many who have developed as competent professional have no means of keeping pace with their profession thereafter.

The aim of this research project is to identify various practical steps which sending and receiving governments, universities and private exchange

organizations might take to raise the productivity of this flow - in part by viewing it within the framework of educational and manpower planning.

The first step will be to establish a conceptual framework through which to view this flow - from beginning to end - as a flow and to identify the various points along the way at which problems exist and where remedial action might be taken through the introduction of policy and programme changes. These points would include, for example, (a) initial recruitment and selection of students and trainees to go abroad (and admissions policies of receiving institutions); (b) orientation and preparation (including improvement of language skills); (c) selection of the institution to be attended and the type of studies to be pursued; (d) actual content and conduct of studies and training (especially its relevance to the home country needs and the student's preparation); (e) duration of period away from home and the problem of "alienation"; (f) when and whether he returns home (and factors affecting this); (g) the job placement of the returnee; and (h) continuing external professional contacts.

Most of these questions have already been examined in some degree, usually in relation to a particular sending or receiving country. But invariably such studies have been limited to one or two aspects and have viewed the problems in terms of the particular interests of the research sponsor. The aim here would be to put these problems in a large and fresh perspective, to review all existing studies for such light as they may shed, and to identify and carry out further research where necessary to penetrate the key policy issues and options involved.

A number of governments have expressed strong interest in such a study and their cooperation is assured. It should

also be possible to secure the active participation of a number of well qualified research organizations in several major developed countries and in a sample of developing countries. The Institute would take central responsibility for the overall study, however, and would use its own staff actively in the research, while at the same time charging upon others to assist on pieces of the study wherever this seemed most efficient and effective.

Prior to the completion of the whole project it would be possible to issue a number of reports covering particular parts.

Project No. 2: A series of country case studies of external educational aid

In order to bring into sharper focus the central problems of rendering and receiving foreign aid - particularly as they relate to educational planning - it would be useful to examine comprehensively the actual educational aid pattern and experiences of a selected group of recipient countries. The questions to be examined would include, for example:

What role has foreign aid played, quantitatively, in the country's total educational effort; what main forms has the aid taken, and from what sources has it come?

What role has educational planning played in determining the requests for aid and the decisions of donors?

What role has foreign aid played in initiating and strengthening educational planning? What impact has aid from countries with considerable diversity among their own education systems had upon the shape and direction of the recipient country's educational system?

To what extent has foreign aid stimulated a critical reexamination of existing educational arrangements

and practices and the testing out or adoption of innovations?

How has the recipient country handled the problem of dealing with a variety of potential donors so as to coordinate sources with one another and with their own efforts? Has educational planning been of any help on this difficult "coordination" problem?

These country studies, which later would be subject to comparative analysis, would involve field studies by external experts working in close cooperation with one or more local research experts wherever possible. The field work would be preceded by a careful review of all pertinent documentation.

CONCLUSION

This is a bold research programme for a young international institution and it will obviously require considerable time to carry out. The fact that the various projects are closely related, however, should facilitate and strengthen the effort.

The full formulation of each research project will require time and must await the selection and appointment of the principal research people involved. The Institute's own present staff, however, is capable of moving fairly rapidly on several projects and a number of competent researchers to be engaged on other projects have already been identified, including especially the members of the Institute's Council of Consultant Fellows. Preliminary discussions have also been held with a number of cooperating research institutions in several countries. Exploratory talks with officials of numerous governments have also been had, with promising results.

But to initiate this programme, which the Institute believes to be urgent and important, it is necessary that long term support for each of the research programmes be

assured. With the limited financial means at hand the Institute cannot seriously explore and negotiate all the practical aspects involved for very many of these projects. The time of talented people must be committed well in advance, available documentation must be thoroughly reviewed, and in many instances pilot research studies must be undertaken before full research designs can or should be prepared. Thus the Institute would especially welcome research grants or contracts covering a period of at least three years.

With adequate resources available the Institute can move much more rapidly to exploit the rather unique opportunities which its international position and status afford for tapping more fully the rich research capabilities and data of a variety of nations on a cooperative basis.

A P P E N D I X

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EDUCATION COMMISSION

Subject:- Convocation address of Shri Asoka Mehta
at the University of Rajasthan (19.1.65)

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The following is an extract from the Convocation Address delivered by Shri Asoka Mehta, Deputy Chairman, Planning Commission, at the University of Rajasthan on 19th January, 1965. The views expressed here have a two-fold significance : (1) improving the economic condition of India implies, in a social democracy like that of India, the acceptance of "a certain code, not imposed on unwilling, intransigent agents, but spontaneously shared by all the citizens who may be described either as the pilgrims of progress or as the soldiers of Socialism"; and (2) how old concepts like plain living and high thinking could be re-interpreted in modern terms and in the modern context. The Members of the Commission may find it interesting.

"The Task in which we are engaged is to modernise our economy and in that way infuse our social relations with egalitarian purposes and values. The modernisation of the economy involves many changes; it means understanding and utilising the forces of Science and Technology. That in its turn requires the deepening of the production structure, of making the production processes round-about. Not only will a great amount and variety of skills have to be diffused among the people, but a considerable amount of resources have to be mobilised and invested in building up the round-about processes of production. The end products, when realised, would be more varied, plentiful and cheaper compared to the products of traditional processes. But to achieve these results of massive production, providing for mass consumption, considerable capital has to be initially invested. When a traditional society gets modernised, when an under-developed economy reaches out towards development, there is an inescapable period of stepped-up savings and investments that help to achieve the transformation whose fruits ensue only thereafter. The investments and output, at this stage of development cannot be synchronised. There is thus a period of increasing efforts with restricted benefits that has to be gone through - and that phase can cover as long as 15 to 20 years - before the hoped for abundance of goods and services becomes visible. A particular generation finds itself, as it were, anointed for this critical purpose. In that sense we are the beloveds of God.

During this phase of transition and transformation an ethic of abstinence becomes necessary. Otherwise savings will not accumulate, and investments might sag. The propensity to consume, with rising incomes, has to be checked, otherwise the transition would falter, nay fail entirely to come off.

You will recollect that economic historians have often coupled the rise of capitalism with Puritanical ethics. Karl Marx denounced the capitalists by saying, "Accumulate, accumulate, that is their Moses and their prophets!" in the days of classic capitalism, the enterprisers improved their earnings, but rarely did they augment their consumption standards. Increased incomes went into savings and larger investments in order to build up wealth for the future.

In the communist countries, a certain revolutionary clan was created to achieve a similar purpose. Personal liberties are severely circumscribed and living standards held low all along the line. The wealthy were expropriated and a broadly common level of living enforced. The rest of the national income was ploughed into the economy as social savings. The full accent was on investment.

In India today neither of these courses are wholly open to us. Both the systems have shown their brutalities and limitations. It is not possible to repeat in contemporary India, the methods of late eighteenth and early nineteenth century Britain nor of the Stalinist age of the Soviet Union. We have eaten the fruit from the tree of knowledge, and we cannot undo it! Better awareness, however, does not absolve us from the grinding need of going through the process, though it is partly mitigated by the external assistance that we receive from the developed nations. Awareness should help us to accept the requirements of the situation not in a blind or brutal fashion, but in a socially responsive manner.

I feel depressed with the obsessive preoccupation with "incentives" viewed narrowly as monetary rewards. To almost every problem the answer proposed is more and better incentives. How to get good teachers? Give them higher pay and more amenities. How to place doctors in rural hospitals? The same answer. How to get more efficient production? The same answer. It is possible for a few to gain at the cost of the many, in one segment of life or another, but many cannot gain at the expense of the many. We are often asked to accept the mocking paradox that "to develop ourselves we must first be developed!"

If we are constantly obsessed with levels of living, and they become the main criteria of our judgement and preference, the limited increments in production will all get consumed, development get shackled and prospects of emerging out of the dark valleys of poverty on the sunlit heights of plenty vanish. Unless we bring to our expectation a time-perspective and emphasise efforts now, as distinct from enjoyment, the future will be bleak.

The excitement of the revolutionary tasks in which we are engaged is a reward that should compensate for many other short-comings and difficulties. May I be pardoned for a personal reference? I draw 35 per cent of my salary and leave the rest to the Exchequer because I feel that I must not be separated from our people beyond that level.

It is a voluntary gesture and I have encountered no difficulty in making it.

It will now be obvious that at the stage reached by us in the development cycle, how disruptive it is to indulge in, what Veblen called the "conspicuous consumption". It is particularly objectionable not only because it involves considerable waste, but mainly because its "demonstration effect" is unsettling and undermining to the whole fabric of growth. To want to live in a house of more than three or four rooms today is to erode development. Likewise, to exalt the demand for private cars, even small cars, is to endorse wrong priorities. What we need is an accent on public transport; whatever facilities by way of roads and fuels we can provide, whatever manufacturing capacity for automobiles we can muster, must be used for trucks and passenger buses.

All along the schedule of production you will be able to discover priorities that are thrown up as it were by social criteria. At this stage of our growth-cycle we cannot hanker for sophisticated consumption, but only for modernising production whose end-product will be the enlarged basket of improved goods and services that we desire.

To create a social climate-- and there is no surer sanction than the one provided by a climate of opinion - where a person is judged by his work, and not by his income or consumption standard, is as necessary for our development as generation of power or fabrication of steel. An ethic of austerity, with a deep feeling of humanity, is what Marshall would call the expression of 'chivalry' in our conditions. To develop a conscience in large units of production and to conform to standards of living that are related to the realities in this country, and not to the comforts of persons engaged in similar activities abroad, are among the pre-requisites of progress. To be poor, in our conditions, is to be among the elect. To flaunt wealth is to damage our development. This simple transvaluation of values is necessary if our pilgrimage to progress is to succeed.

The living truths of Gandhiji guide us in this very direction. Jawaharlal Nehru harped incessantly on socialism because he knew that only through shared poverty, through a comradeship in frugality, can we hope to overcome sensual and want. To see one's fulfilment in social purposes as distinct from personal gains, that is implicit in socialism.

Item No.12
With Meeting

EDUCATION COMMISSION
GOVERNMENT OF INDIA

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Preparation of text books on a national or statewise basis -

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We have been discussing the question of the preparation of text-books on a national or a State-wise basis. Apart from the question of how textbooks are prepared and printed, we should also consider the ways and means of improving their quality. In this connection, some measures have already been adopted. We should suggest to the State Governments as well as writers that textbooks not be envisaged literally as text books but written as any good, effective book would be written for prospective readers with a view to interest and inspire them. At present, a large majority of the text-books written for schools or colleges are narrowly centred on the prescribed curriculum and lack the courage to make any departure from it, with the result that they have very little appeal of their own. No first-class author can write a book of this kind without feeling unduly restricted. That is why, a large majority of the so-called text-books lack the creative touch. I am of the opinion that an attempt should be made, at least in textbooks for higher classes, to break this tradition. This would incidentally have the advantage of reducing the complete undivided concentration of students on the details of the prescribed curriculum, irrespective of the interests and demands of the subject-matter itself.

I would like this suggestion discussed by the Commission.

K.G. SAIYIDAIN
14-2-1965