AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D. C. 20523

BIBLIOGRAPHIC INPUT SHEET

FOR AID USE ONLY
Batch 59

1. SUBJECT CLASSIFICATION
A. PRIMARY: TEMPORARY
B. SECONDARY:

2. TITLE AND SUBTITLE
Selected readings from INNOTECH,1972-1973

3. AUTHOR(S)
(101) SEAMEO/INNOTECH Regional Center for Educational Innovation and Technology

4. DOCUMENT DATE: 1974
5. NUMBER OF PAGES: 130p.
6. ARC NUMBER: ARC

7. REFERENCE ORGANIZATION NAME AND ADDRESS
AID/ASIA/TR/EHR

8. SUPPLEMENTARY NOTES (*Sponsoring Organization, Publishers, Availability*)
(In INNOTECH/SR-74/7)

9. ABSTRACT
(EDUCATION R&D)

10. CONTROL NUMBER
PN-AAD-572

11. PRICE OF DOCUMENT

12. DESCRIPTORS

13. PROJECT NUMBER

14. CONTRACT NUMBER
AID/ASIA/TR/EHR

15. TYPE OF DOCUMENT

AID 590-1 (4-74)

INNOTECH/SR-74/7

SEAMEO

REGIONAL CENTER
FOR EDUCATIONAL
INNOVATION AND TECHNOLOGY

SELECTED READINGS FROM INNOTECH

1972 – 1973

JANUARY 1974

innotech

AID/ASIA/TR/EHR
PN-AAJ-576

INNOTECH/SR-74/7

SELECTED READINGS FROM INNOTECH

1972-1973

SEAMEO Regional Center
for
Educational Innovation and Technology

Saigon

January 1974

TABLE OF CONTENTS

Preface i

The Systems Approach to Alternatives
by Kartomo Wirosuhardjo 1

Curricular Alternatives: A Commentary
by A.M. Guerrero..... 7

Educational Technology as an Alternative
by Douglas G. Ellson..... 19

The Alternative to Schooling
by Ivan Illich..... 33

In-and Out-of-School Alternatives
by Ekaridya Nathalang..... 49

The Individual as an Educational Innovator
and Change Agent by Jerry Short..... 65

Community Schools in the Khmer Republic
by Nhoeng Nhan 75

How to Approach the Problem of Developing an
Effective and Economical Delivery System
for Primary Education
by Hussin..... 97

Minimum Formation Education
by Haile Yesus Abeje..... 109

P R E F A C E

The Regional INNOTECH Center has been extremely fortunate during the past two years in having been able to host three Seminars on issues of importance to education in Southeast Asia. The seminars were[1]:

... Alternatives in Education: A Regional Practicum

... Educational Technology: An AED/INNOTECH Seminar

... Approaches to Effective and Economical Delivery of Mass Primary Education

The demand for copies of some of the articles from the seminar reports has far outstripped the Center's initial printing. We are gratified by this response, but we do not have the resources to reprint all reports in toto. We have taken, therefore, selected articles from all four seminars and have reproduced them here as a single volume. Although the staff in making these selections had to, of necessity, leave out many of undoubted value, I am sure that the reader will agree on the quality of those which have been included.

The four original volumes were printed in a variety of formats and type faces, and they are reprinted here in their original form so that we could save both time and cost in reproduction.

Ly Chanh Duc
Director

---

1 Publication of a fourth seminar report "Use of Community Resources in Providing Low Cost Primary Education" will be available shortly.

THE SYSTEMS APPROACH TO ALTERNATIVES

by Kartomo Wirosuhardjo
Head, Office for Educational Development
Ministry of Education and Culture
Djakarta, INDONESIA

INTRODUCTION

This Regional Practicum on "Alternatives in Education" will be very useful for the region and is a very well chosen topic. During these last years there have been a growing interest in questioning whether the education being offered to our people has been the right one. Educated unemployment, a growing pressure for more higher education, frustrated youth whose aspiration for a better life after enjoying more education than their parents ever had, have become a phenomenon in our region.

These all go along with the fact that in many parts of the region the demand for basic primary education has not been met adequately. There are even indications that, unless we can cope with the explosion of our population, many countries in the region will have to add to the backlog of those without education

The setting up of Innotech may be a reflection of these challenges. Looking for alternative solutions to the problems of education in our region in close cooperation with the member countries seems to be one major function of Innotech.

Systems approach means different things to different people. I have attended a few meetings in which systems analysis or sometimes called systems approach has been understood differently. Some people look at systems approach as a systematic approach applying logic. Others look at it as a powerful instrument to solve any kind of problems. For the sake of convenience I will not distinguish systems approach and systems analysis and use it interchangeably and propose a working definition for the purpose of our discussions.

DEFINITION

Before trying to define systems analysis, let us emphasize what systems analysis is not. Systems analysis is not a panacea to the educational problems that we have. It cannot supply the right answer to our problems, but it can help the decision maker make better decisions if properly applied. Systems analysis is not a set of methods or techniques, which can be applied to solve all kinds of problems, but it can be very helpful within certain limits. It is a kind of research strategy to provide information to decision makers faced with complex problems of choice under uncertainty.

> Quade and Boucher define it as follows:
> "Systems analysis is a systematic approach to helping a decision maker choose a course of action by investigating his full problem, searching out objectives and alternatives, and comparing them in the light of their consequences, using an appropriate framework to bring expert judgement and intuition to bear on the problems."*)

Systems analysis deals with the full problem or system. A system may be considered as a whole consisting of interrelated components or subsystems. The first problem is to identify the system we are concerned with, because every system may be seen as a component or a subsystem of a bigger system, with the universe as the ultimate system.

Once the system is defined, we then proceed with the process. But before we go on, when we deal with education we should define what we are interested in. Our system may be the national or provincial, general or technical education, primary, secondary or higher education. But in my opinion we should start with the national system and look at the other things as subsystems or components. This approach will avoid fragmentation of the problem which ends up in piecemeal solutions.

---

*) Quade & Boucher, Systems Analysis and Policy Planning Applications in Defence, Elsevier, 1968, page 1.

THE PROCESS OF ANALYSIS

The process of systems goes through successive approximation following these stages*.

Formulation of objectives, defining the issues concerned, limiting the problem. The variables that are operative to the attainment of the objectives, are identified when the relationships between them are stated It is the formulation of objectives which is most difficult, because everything will be derived from it. The decision maker, who is in the final analysis responsible, has to make a decision on the objectives, which is a process of judgement rather than anything else.

Once the objectives are determined operationally, the next step is the research phase, i.e. looking for data and relationships. At this stage historical as well as comparative data are important to help in the formulation of alternative programs for action.

An assessment of the situation to identify resources and constraints, cost-effectiveness and expert opinions on numerical data and assumptions are parts of this stage.

The research phase is followed by the analytical phase or evaluation. (Models to predict consequences of each choice of alternatives.) Every alternative should be analysed in terms of its contribution to the attainment of the objectives and the cost effectiveness. All alternatives will then be compared in terms of programs and costs.

The analytical phase will make predictions under a set of assumptions, which will be followed by interpretation or judgmental phase. This phase will use the predictions obtained from the models with the aid of other information or insight to compare alternatives further, derive conclusions about them and indicate a course of action or plan.

---

* Quade & Boucher, op. cit., 33 - 53

The last part of the process is verification when conclusion of the analysis will be tested. The testing can be done through experimental or pilot projects. The result of such projects should be made available to the decision maker as a feedback for revision of the plan as is necessary. This verification is also a means to improve the formulation of objectives, if the result of verification is not satisfactory.

WHAT SYSTEMS APPROACH CAN OFFER

Education has been very responsive to social demand for more education. Education and more education has almost been an end in itself. Education has been a hope for salvation from poverty and ignorance, which is true for most people in our developing region Education has certainly contributed a great deal to the development of the region. Literacy has increased substantially during the last twenty years. People with secondary and higher education are increasing in number, who help overcome the shortage of skilled and high level manpower.

However, as we look at the requirement of development of our countries, education in our countries falls short of the role it has to perform. Our education is oriented to a production technology unfit with the prevailing technology. On the one hand, many of our countries are short of the skilled manpower we need to produce efficiently, and on the other, we have an abundance of unused human resources with certain skills not salable in the market. At the same time we have developed a consumption pattern among our youth in particular beyond our productive capacity. Demonstration effects in towns and cities reveal the irony of affluence in a sea of poverty and sufferings in the rural areas and urban slums.

What can systems analysis do? Systems analysis in the hand of good systems analysts may contribute. Systems analysis can help decision makers to see the whole forest, and not just the trees, by knowing the whole system and its components as an integrated one. It seems true in many countries of the region in which each component in our education system becomes a system in itself, building empires unrelated to the other components. Systems analysts can help develop the awareness of the existence of a system, in which a component plays a part in harmony with others.

Since system analysis is either a method or a technique, and more art rather than science, it is not easy to make one a systems analyst. But if we look at the process of systems analysis, it shows that it is an objective-oriented and not a means-oriented approach, it is a problem solving approach through problem identification and does not start with solutions. It looks at the present programs or action as just one alternative, and not as the only alternative. It helps bureaucrats not to stick to procedures but look at the problem and look for the best solution. It is a way to look for optimum solution rather than an ideal solution. In short, basically it is the application of economic principles aiming at optimum use of resources to attain a certain objective. Methods and techniques can be borrowed from several disciplines.

SOME EXPERIENCE IN SYSTEMS APPROACH

Taking advantage of the work of Innotech at the preparatory as well as interim stage, within the Ministry of Education in Indonesia, effort has been made to explore the potential application of systems analysis. The underlying idea behind the exploration of the application was the fact that after the mismanagement in the first half of the last decade, the whole education was fragmented. The objectives of education were determined by the components of what should be the educational system. Curriculum, personnel, materials, facilities of the fragmented system had no relation whatsoever with one another. In the framework of the refunctioning of the government as an effective organization, in 1969 a reorganization was introduced in the Ministry of Education. This opportunity was used as a means to integrate education within the Ministry of Education dealing with primary, secondary, higher education and community education. The planning agency within the Ministry in the framework of the Five Year Development Plan was assigned to coordinate the planning in the Ministry. It soon was realized that there was not even a clear understanding of the situation.

A seminar on identification of educational problems was organized, mobilizing the educational leaders in the country in early 1964. Based on the problem identification, a national assessment of education was undertaken. The main purpose of the assessment was to provide a clear picture of the whole education system, i.e. the curriculum, personnel, materials, facilities of the components of education. The assessment was also expected to provide data for the improvement of the existing plan, but especially as a preparation for the second development plan.

In the meantime, a program of developing systems analysis as a means to enable an integrated planning of the educational system was organized in the newly established Office of Educational Development. The Office, established by Presidential decree was given the function of coordinating and conducting research, experimentations and planning of education. The national assessment of education became part of this institution. With the functions assigned to the Office and with due support by the Minister of Education, systems analysis became an accepted approach.

Priority was then given to the training of potential people in the Office of Educational Development, in the Directorates as well as the Regions, and by now a few hundreds of the Ministry's key personnel have been directly exposed to the approach.

At the moment, exercise in the application of systems approach to educational objectives, criteria for evaluating innovations, project formulation and education administration are at the final stage of completion. In all these exercises the application of systems approach to alternatives, or the formulation of alternatives through systems analysis, has been the basic approach. In due course the results will become an input to the educational system in Indonesia. It is not impossible that they are of some use to Innotech and others as well.

CONCLUSIONS

Systems analysis properly applied could give an estimate of resource implications and effectiveness of alternative courses of action. The end of systems analysis is to supply the decision maker with the optimum cost-effectiveness out of a number of alternatives. On the basis of his judgement, the decision maker chooses the best alternatives.

For this reason, systems analysis in its simple form should be communicated as much as possible to develop understanding of its potentials and limitations among decision makers and planners in education, but at the same time good systems analysts in education need to be developed to benefit most from it.

CURRICULAR ALTERNATIVES : A COMMENTARY

by A.M. Guerrero
President, Trinity College
Republic of the Philippines

Never before, in the history of Southeast Asia, has there been so much educational ferment as in the last two or three decades. Countries of the region have created agencies and task forces to study continually their respective educational systems -- aims and objectives, structures, and curricular contents and methods -- in the light of changing social, economic, and cultural conditions. In the Philippines, for instance, the President of the country created in 1969 the Presidential Commission to survey Philippine Education and, after submission of the survey report, formed a task force to conduct in-depth feasibility studies of recommended projects.

This ferment has been due to a number of factors, some of which are (1) liberation of the countries and their subsequent search for their identities; (2) industrial and technological growth; (3) increasing population; (4) greater cultural interaction with themselves and with western countries; and (5) new values which have replaced or have threatened the existing ones. This activity has been partly nourished, so to speak, by organizations like the UNESCO and the SEAMEO and their subsidiary agencies and by the greater technical and other forms of assistance which in some instances have provided funds and expertise.

As part of this activity, the curricula of schools in the various countries of the region, especially the pre-collegiate, have been subjected to continuous reexamination. Old and traditional, they are being scrutinized -- especially for their viability -- in the light of the quantitative expansion already generally achieved all over the region and of the needs of developing countries in these modern times. Since the existing curricula are in a number of instances centuries-old, and since they are apparently irrelevant to the fast-changing conditions and, in some ways, found unsatisfactory, alternatives for them are being sought. A search for curricular alternatives is being made which will make education relevant to national economic and social development, which will provide the population with access to education at all levels, and which will demonstrate a high degree of efficiency in the achievement of goals and objectives.

Curricular alternatives are innovations and, in the past, the implementation of some innovations bared some dangers which led to the abandonment or phasing out of the innovations. As reported some time ago, for instance, David Rockefeller, President of New York's Chase Manhattan Bank said that his experience in a "progressive" school was interesting but he "never learned how to spell." 1/ This report reveals one of the basic weaknesses of the progressive education movement.

It is always desirable, therefore, that educators know everything possible about alternatives so that this knowledge may provide them guidelines for the adoption or adaption of some plan to be borrowed or the formulation of something new. For this purpose, this paper will deal with some significant or major curricular alternatives introduced or popularized in the immediate past and comment on their various aspects.

RECENT CURRICULAR ALTERNATIVES

In the last two or three decades, a number of curricular alternatives have been initiated or have grown into prominence in the West, especially in England and the United States, and in some Southeast Asian countries. "The last decade has seen," says Paul R. Klohr, "alternative curriculum designs which are beginning to push up through the many hard-rock traditions of curriculum development reflected in the so-called conventional wisdom of the field, like flowers pushing up through a concrete pavement." 2/

A few of these alternatives will be dealt with in the following pages.

Continuous Progression Scheme

Probably one of the earliest schemes which came into prominence, especially in the attention of Southeast Asian educators, is continuous progression, a curricular plan in nongraded elementary schools. It is not a new concept or theory. Its basic idea dates back to the American Civil War and, off and on, some American educators have adopted it.3/ After the second world war, Goodlad

---

1/ UNESCO Regional Office for Education in Asia, "Preface," Bulletin, v. 6, no. 1 (September, 1971), p. 6.
2/ Paul R. Klohr, "The Greening of the Curriculum," Educational Leadership, Vol. 28, No. 5 (February, 1971), p. 455.
3/ A.M. Guerrero, "Continuous Progression in Elementary Schools," Curriculum Journal, Vol. 2 No. 2 (December, 1971), p. 42.

and Anderson* popularized it through their book 4/ which first came out in 1959. UNESCO took cognizance of it and had it discussed in the 1970 International Conference on Education.

Under this curricular alternative in the elementary school, the child is assisted to grow continuously toward his maximum potential. The school is nongraded and each child advances at his own rate. There are no pupil retentions, failures or repetitions of grades.

Briefly, the other more important aspects of this alternative to the traditional graded structure are the following:

a. The elementary school is nongraded.
b. There is provision for both fast and slow learners as the daily learning programme of a child starts where he has left off on the preceding school day.
c. The traditional subject or disciplinary division is maintained.5/

The nongraded scheme has been conceived partly in order to obviate pupil repetitions and failures -- or, in some cases, drop-outs, -- because of their adverse psychological effect on the child and of the unnecessary wastage of time, effort and money.

This alternative poses a number of implications for the school. First, there must be considerable instructional materials in the classroom due to the varying learning stages of the pupils in a class. Second, the teacher must be well-trained and knowledgeable in the use of evaluative tools so that she can determine, as precisely as possible, the stage of learning of the individual pupil. Third, this scheme facilitates the stay of the child in the educational system. Fourth, it may prevent wastage of national funds as there will be no pupil failures nor repetitions of grades. And, fifth, it maximizes the learning potentialities of a child.

---

* Prof. Robert I. Goodlad is Professor of Education and Director of the University Elementary School of the University of California at Los Angeles, U.S.A., and Prof. Robert H. Anderson is Professor of Education and Director of Elementary School Internship and Apprentice Teaching, Graduate School of Education, Harvard University.
4/ R.I. Goodlad and R.H. Anderson, The Nongraded School (N.Y.: Harcourt, Brace & World, Inc., 1959).
5/ Guerrero, op. cit. p. 44-45.

The scheme is very attractive. It takes care of the individual differences of pupils and gives some assurance that education will be more effective -- and, therefore, lead to the better achievement of goals -- than the traditional graded scheme. However, rushing into the adoption of this scheme may lead the system into some pitfalls: (1) it will in the long run be more expensive, due in part to instructional materials, even if the wastage on failures and repetitions is minimized or obliterated; (2) it demands much more on the teachers and the majority of the teachers in the Southeast region may not be equal to the challenge; and (3) the expected learning results may, in the last analysis, be inferior to that of the traditional.

The Open Classroom

This curricular alternative has been known under various names.* Started in England after World War II, one of the earliest places in which it was introduced was at Westfield Infant School in Leicestershire. This is the reason why it is also called the Leicestershire Method.

An open classroom is characterized by the following:

1. A general atmosphere of excitement prevails in the room.
2. There is no formal arrangement of seats and teacher's desk.
3. The room is divided into activity areas, where plenty of materials for various activities are available.
4. Integration occurs in the interpenetration of the various subjects and skills.
5. The emphasis is on learning rather than on teaching and the focus is first, on the children's thinking and problem-solving processess and, second, on his ability to communicate with others.
6. Freedom and responsibility on the part of the child is given many opportunities for expression in the classroom procedure.6/

---

* Some of these are: "Leicestershire Method," "British Infant School," "Integrated Day," "Open Classroom," "Open School," "Free School," "Open-space plan," and "Free day." (I. Ezra Staples, "The 'Open-Space' Plan in Education," Educational Leadership, Vol. 28, No. 5 (February 1971) p. 458. Also, Beatrice and Ronald Gross, "A Little Bit of Chaos," Saturday Review, May 16, 1970, p. 71).

6/ Beatrice and Ronald Gross, "A Little Bit of Chaos," Saturday Review, May 16, 1970, p. 70-71.

At the start of the class, the teacher calls a meeting and focuses the attention of the children to an experiment, a news item, or others which seem relevant to the stage of learning the children have reached on the basis of a core curriculum. She points out where some children are deficient in some necessary learning experiences and these children are told to work with her. The rest then choose their own activity and start working. Each child keeps a diary of his or her work. After all these, the teacher recedes into the background until, in her observation, there is need to stimulate a child or group of children in the activity.7/ In short, the teacher is a stage setter and stimulator; she encourages and guides but does not direct.8/

This curricular alternative is largely based on the work of Jean Piaget, who is best known for his finding that intelligence, adaptive thinking and action develop in sequence and are related to age. However, "the ages at which children can understand different concepts vary from child to child, depending on his native endowment and on the quality of the physical and social environments in which he is reared." 9/

As in the case of continuous progression, classroom procedure in the case of the open classroom places much responsibility on the shoulders of the teacher. In this case, she not only should have a good mastery of subject matter but must also be knowledgeable in the psychology of the child. In addition, she must be trained in guidance so that, in the various activities of the child, she can guide the child towards the accomplishment of a learning objective in an unobtrusive way. This kind of classroom plan and implementation of the curriculum carries great implications for teacher-training.

Also, because of the varied activities in the classrooms, the provision of necessary instructional materials may be difficult. It may not be feasible in countries of Southeast Asia where the efforts to provide funds for education are outdistanced by the rate of increase in the number of children to be educated, especially at the pre-college levels. At least one writer reports that at the start, the "open classroom" plan is more expensive to implement than the traditional. As a matter of fact, in the United States it has been found that it costs $36 more to educate a child under this scheme.10/

7/ Ibid., p. 71.
8/ Vincent R. Rogers, "English and American Schools," Phi Delta Kappan, Vol. 51, No. 2 (October, 1969), p. 71.
9/ Gross, op. cit., p. 84.
10/ Joseph Featherstone, "How Children Learn," New Republic, Vol. 157, No. 10 (September 2, 1967), p. 17.

This curricular plan, however, may brighten the horizon for rural areas, especially in Southeast Asia. It is supposed to provide effective learning experiences for children of diverse backgrounds -- for urban and slum areas, the suburbs and the rural areas. 11/

In many respects, this plan is similar to the curricular plan which came out of the Progressive School Movement in the United States sparked by John Dewey. It is integrative; but unlike the progressive classroom, it does not break down the traditional subject lines. The achievement of the child in the open classroom is slightly lower than that of the traditional in the case of subjects which can be evaluated with present methods. Much is laid on the shoulders of the teacher especially with reference to guidance. And it is here where a pitfall lies: the introduction of the plan without the careful attention to the requisites -- teacher-training, logistics, etc. — may make it suffer the fate of the Progressive Education Movement: the slow abandonment of the curricular scheme.

It may be heartening to know, however, that, according to the Plowden Report, about one-third of the elementary schools in England changed to open classrooms. 12/

The open classroom seems to be in harmony with the trend of the times: it encourages the development of freedom of the child. But herein lies another pitfall: the freedom that the children imbibe in the classroom may develop into some unlimited freedom or license or, at least, a distorted concept of freedom. The permissive concept spawned in the United States by the Progressive School Movement has sometimes been blamed for the objectionable unruly behavior of youngsters and poor learning in progressive schools.*

The open classroom is based on such concepts as individual differences, varying individual interest, learning by doing, freedom, integration of subject matter and creative learning.

---

* In this connection, something should be said of John Dewey and the ills of the progressive schools. When Dewey launched the concept and gave it life in the elementary laboratory school of the University of Chicago, he emphasized the importance of guidance in the progressive method. Either through unwarranted misunderstanding, sheer negligence or criminal incompetence, however, the later adoption of the method in many other institutions degenerated into laissez-faire.

11/ I. Ezra Staples, "The 'Open Space' Plan in Education, "Educational Leadership, Vol. 28, No. 5 (February, 1971), p. 459.

12/ Gross, op. cit p. 73.

The "Free" School Movement

The "open classroom" plan was brought to the attention of American educators by Mrs. Lore Rasmussen, who developed the concept independently of the British model. But it started becoming popular in the United States due to the efforts of Lilian Weber of New York City who observed the operation of British Infant Schools. 13/ After Weber, many more American educators and writers crossed the Atlantic to observe and then to write about the schools. This led to the establishment of many "free" schools, as an alternative to the public school plan with which many parents were dissatisfied. 14/

Many schools follow this free school movement. Varied in many respects, they reflect two things which make them quite similar to the open classrooms: (1) the idea of freedom for youngsters and (2) a humane education. 15/

This type of curricular plan is committed to the ideal of individualization of instruction and is the antithesis of the type of classroom in which the teacher stands before the class, dominates the lesson, and the pupils seated before him are exposed to the same learning experience at the same time.

As in the British infant school or the Leicestershire method, the classroom is "open" and is characterized by approachability, relaxed and informal control, ease of communication, mutual supportiveness between teacher and student, and stimulating environment. The pupils even go out of the classroom and are free to do what they want to work with, on the basis of each child's own experience and current interest. "The fluidity of the room makes it possible for children to do what is natural for them: to work together and to teach one another." 16/

An example of this type of school in the United States is Philadelphia's Parkway Program. In this plan, only a limited number

---

13/ Ibid.
14/ Joshua L. Smith, "Free Schools: Pandora's Box," Educational Leadership, Vol. 28, No. 5 (February, 1971), p. 465.
15/ Bonnie B. Stretch, "The Rise of 'Free Schools,'" Saturday Review, Vol. 53, No. 25 (June 20, 1970), p. 76.
16/ Staples, op. cit., p. 458.

of students are enrolled and they are divided into "communities." The outstanding characteristics of the programme, which had earned for the school the name "school without walls," is that the students take institutional courses which call for working in institutions like libraries and museums in the vicinity of the school and the students are encouraged to participate in work programmes of their own choices in the community. 17/

The students define the content, value, and details of their activity; there are no grades or requirements; no strict authority figure to enforce discipline and to limit freedom; and the school is dedicated to help the children grow up and live in the world as represented by the community. Obviously, the school does not use any evaluation method for appraising student's work. 18/

The Santa Barbara Community School, another of the "free" schools, is patterned after the Leicestershire model and bears its characteristics. As the head of the school puts it, "The idea is that freedom is a supreme good, that people, including young people, have a right to freedom, and that people who are free will in general be more open, more humane, more intelligent than people who are directed, manipulated, ordered about." 19/ It subscribes to Piaget's idea that "play is the serious business of childhood" and the child may as well spend his time in the sandbox as in the reading center.20/

Another curricular alternative of the "free" school type is the IPI (Individualized Prescribed Instruction). It is similar to the nongraded school in one aspect: a day's lesson is built on another before it. The curriculum consists of a detailed listing of behaviorally stated instructional objectives.21/

Like the "open classroom," the "free" schools emphasize the development of freedom and responsibility. In a region where many countries just had independence and freedom as in Southeast Asia, they may be attractive. Some of these may not be expensive to implement and may be easily translatable on Asian soil. This is especially true of the Parkway Program which includes a work programme right on the job site. The danger in this case, however, is that the quality of education, which is now the deep concern of educational authorities in Asia, may be impaired.

17/ J.D. Greenberg & R.E. Roush "A Visit to the School without Walls: Two Impressions," Phi Delta Kappan, Vol. 51, No. 9 (May, 1970), p. 482.
18/ Ibid.
19/ Stretch, op. cit., pp. 76-77.
20/ Ibid., p. 77.
21/ Carl C. Fehrle, "A Look at IPI," Educational Leadership, Vol, 28, No. 5 (February 1971), p. 480.

In some of the free schools, teachers need not have specialized training beyond the usual and the traditional. The great freedom given to the students and pupils is reminiscent of the "progressive" schools and, like them, some of the "free" schools are closing or are slowly reverting to the traditional structured curriculum.

The Barrio High School Movement of the Philippines

One contribution the Philippines has given to the growing need for curricular alternatives in Asia is the barrio high school plan. It is a scheme which promises to help the quantitative expansion of education in the country.

The name of the movement derives from barrio, the name of a political, largely rural subdivision of a town or city. The curriculum follows the traditional general education curriculum but contains a big dose of vocational education and paid actual work programmes. In this manner, it is similar to the Parkway Program described above.22/

The barrio high school curriculum follows the essential lines of the prevailing "2-2" Plan* of the present secondary school system, with the exception that the pre-collegiate stream in the last two years has been dropped in favor of a concentration on the vocational stream. Ample time is provided for work programmes of the community or of the students which enable them to earn money for their matriculation fees and other expenses.

The Barrio High School Movement has helped the quantitative expansion of the Philippine Educational system, giving the students access to the secondary level. With the passage of the Barrio High School Act, which provides, among other things, some form of financing for the barrio high schools, more quantitative expansion, -- and probably, qualitative improvement — is bound to occur. "In a short period of six years, since 1964," wrote Dr. Pedro T. Orata, the founder of the movement, it has been possible to provide ... education to 160,000 children and youth [in 1,600 barrios and towns]23/

---

* This is the present high school curriculum consisting of two years of general education and a two-stream (pre-collegiate and vocational) last two years.

22/ Supra, p. 10.

23/ Pedro T. Orata, Curriculum Innovations, [1972] Typescript, p. 2.

Established largely in barrios, the barrio high school hardly has a building of its own. More often than not, it uses the physical facilities -- and, in most cases, also the teaching personnel -- of the elementary schools after they have closed for the day. This is the reason why the financial demands of the operation of the barrio high school is very negligible indeed, as far as the government is concerned. And, necessarily, the expense per student is very minimal.

A great problem faces the barrio high schools: the quality of instruction. Many educational observers have claimed that, in the light of the circumstances of the schools, the quality of instruction leaves much to be desired. But this does not bother the founder: he thinks that the barrio high schools are for a two-pronged purpose and they achieve this well enough; that is, to provide literacy and general education better than what the elementary schools have accomplished and to initiate the high school students into the realm of work. And these two achievements of the schools in turn contribute to the welfare of the country -- in citizenship training and manpower development.

CONCLUDING COMMENTS

During the First Educational Development Decade in Asia, the 60's, the primary concern was the quantitative development of educational systems. Considerable success has been achieved in that direction and so the second or followind decade, the 70's, has been earmarked largely for quality improvement.

The improvement of the quality of education, on the other hand, rests heavily on the curriculum and its implementation. If the curriculum has been closely geared to updated goals and objectives and if it has been implemented to the highest degree of efficiency possible, then a high quality of education inevitably follows. The first desideratum, therefore, is to see to it that curricula in the various educational systems are geared to the revised desirable objectives -- first, the full development of human resources and the realization of the hopes and aspirations of the people, especially of the youth; and, second, the satisfaction of the evolving economic, social and cultural needs of the people.24/

24/ UNESCO Regional Office for Education in Asia, "Exploring New Approaches and Methods in Asia," Bulletin, Vol. 6, No. 1 (September, 1971), p. 10.

To achieve this — the gearing of the curricula to the new objectives -- a quest for new alternatives to the traditional curricula, which have been found to be unsatisfactory, must be started and soon. If a curricular plan or scheme has to be borrowed from the outside, it must be adapted and tailored to the circumstances of the borrowing country. In any case, the alternatives open should be well thought-out, tested and evaluated. Incidentally, it is a sad commentary on education in Southeast Asia that most of the recent curricular alternatives have been developed in the West when the East has been considered a seat of wisdom.

Moreover, they should be anchored on certain accepted concepts which have been known to contribute to quality education, concepts like individual differences, freedom and responsibility. And, lastly, provisions should be made for the proper training of those who will implement the curricular alternative or plan, for the instructional materials needed, and for the funding necessary.

The improvement of the quality of education in Southeast Asia is indeed an important and complex problem and its achievement is a function of curricular alternatives adopted and their implementation. But without the proper support of government officials concerned and the dedication of educational authorities, any curricular alternative or plan, however good and well-planned, will just go to waste.

EDUCATIONAL TECHNOLOGY AS AN ALTERNATIVE

by Dr. Douglas G. Ellson
INNOTECH Director of Training and Research

The Problems

It is often said, nowadays, that the educational problems of the developing countries, or of Asia, or of Southeast Asia, are insoluble. For example, one author wrote, referring to Southeast Asia: "it is simply impossible to build the schools, train the teachers, print the text books, install the shops, equip the laboratories, and hire the administrators in the number required to meet the basic needs of all sectors of education effort." Another writer has said even more dramatically, "The developing countries, by seeking to multiply indefinite existing forms of education based on the historic models of the West, are heading rapidly for economic disaster and social bankruptcy."

It should be said that both of these statements, which seem to conclude that the educational problems of this region are insoluble, are taken out of context. Actually, the authors of both statements go on to imply that it is the conventional solutions to educational problems that will not work in the long run or under Asian conditions. Both statements were made to emphasize the need for alternatives to the conventional solutions, and both authors suggest the proper use of educational technology as a possible alternative. The aim of this paper is to elaborate on these statements, first by examining some of the consequences of conventional solutions to two problems common to most of the educational systems of SEAMEO countries and second, by examining some of the characteristics of the educational technologies which promise to contribute to alternative solutions.

We shall examine two basic educational problems, one quantitative, one qualitative. There are not enough schools, teachers, textbooks, equipment and other facilities to accommodate all of the children of school age who live in many of the SEA countries even now. And the populations of these countries are growing rapidly, which increases the number of children to be educated in the years to come. This is the quantitative problem.

As professional educators, most of us are dissatisfied with the quality of education that we provide, and our dissatisfaction is shared by much of the general public. This is the problem of quality. This problem has two aspects. The first involves the question of what we teach. Are we teaching what is most needed for the development of our respective countries and the benefit of the people in them? Does what we teach satisfy our educational objectives and are they the most appropriate objectives? The question of objectives and whether we are teaching what is most likely to satisfy them is of tremendous importance in the success of any educational system, but answering these questions is not our primary concern here. In this paper we are concerned only with the second aspect of the problem of quality, that is, how well are we teaching whatever we choose to teach?

The Cost of the Conventional Solutions

Most of the conventional solutions to the quantitative problem were listed in the first quotation given above: build more schools, train more teachers, print more textbooks, install more shops, equip more laboratories, hire more administrators. The conventional solutions to the qualitative problem as we have defined it may be derived from these proposals by substituting the word "better" for "more" in each of them. The most important of these, of course, is to train better teachers or to train teachers better.

The conventional solutions seem so obvious that many people are not aware that alternatives exist and if they are aware, they seldom give the alternatives serious consideration. But it is exactly these conventional solutions which were described in our first quotation as "impossible" and in the second as leading to "economic disaster and social bankruptcy."

Some of the basis for these pessimistic conclusions may be found in two quotations from the Asian Model for Educational Development, a document which provides a mathematical model or technique for calculating the cost of solutions to educational problems. The first says, "... educational costs would increase from about $2.9 billion in 1964 to $9.4 billion by 1980." For the Asian countries represented, this statement implies that on the average 1964 educational budgets must be multiplied by a factor of three and a quarter by 1980. Elsewhere in the same document is the statement that "in the decades ahead, the number of educational institutions and personnel will increase about fourfold."

If these estimates seem excessive it may be pointed out that per pupil expenditures for primary education in the United Kingdom were approximately $210 (US) in 1964. In the United States the corresponding figure was $460 in 1968. These are roughly 10 and 20 times the 1968 projections for the more prosperous countries in Asia (the group C countries, which include Malaysia, Philippines, Singapore and Thailand).

These figures, based on the Asian Model for Educational Development and the 1970 edition of the UNESCO Statistical Yearbook are averages for Asia as a whole. In Table 1 we have shown the results of some similar calculations for all of the SEAMEO countries for which the necessary data were available in the Statistical Yearbook. Because of the emphasis assigned to primary education in the final recommendations of the SEAMEO Regional Educational Planning Seminar, these calculations are limited to the cost of conventional solutions in the primary system alone. No changes in expenditures for secondary and higher level education are represented.

Column a shows the base year for the calculations. This is simply the latest year for which necessary data was available in the 1970 Statistical Yearbook. The figures in the remaining columns are multipliers, that is, the numbers by which costs in the base year must be multiplied to solve a given problem, using conventional solutions. Column b shows the multipliers required to solve the quantitative problem by 1980. Column c shows the multipliers for solving the qualitative problem alone. Column d shows the multipliers required to solve both problems by 1980. Looking at some of the figures in this column -- multipliers of 4, 7, 8, 13 — we may well ask whether all Asian countries can afford the conventional solutions to their problems if they require budget increases of this magnitude.

The Technologies as Alternative Solutions

The second thesis of this paper is that the teaching technologies offer two major advantages over the conventional solutions to both the quantitative and the qualitative problems. First, the manpower requirements of teaching technologies provide a better match than conventional solutions to the manpower now available in Asia. Second, they offer the possibility of reducing some of the major costs of education at the same time that quality is increased.

Table 1

Some Projected Costs of Conventional
Solutions to Problems of Primary Education

Country	Base Budget year	Primary Level Cost Multipliers		
		100% Enrollment 1980	Quality Improved	100% Enrollment Quality Improved
	(a)	(b)	(c)	(d)
Khmer	1967	1.8	4.4	7.9
Laos	1968	3.2	4.3	13.4
West Malaysia	1968	1.7	1.0	1.7
Sabah	1967	1.5	5.8	8.7
Sarawak	1968	1.7	1.4	2.4
Singapore	1968	1.5	0.8	1.2
Thailand	1967	1.9	2.2	4.2
Vietnam	1968	1.6	1.4	2.2

Apart from the problems of financing education in most Asian countries is the shortage of trained teachers. To increase the quality and quantity of schooling in conventional ways will still further increase the need for trained teachers. Ideally, this means graduate teachers, those with 16 or more years of schooling, including several years of professional training. In most SEAMEO countries less than 1% of the population are college graduates, and they are in great demand for professions and positions of leadership in fields other than education. Because of the competition for highly qualified people, well-trained teachers must be paid high salaries. This contributes to the problem of cost in a major way, since teachers' salaries are always the largest single item in educational budgets. Insofar as the educational technologies reduce the demand for graduate teachers they can reduce the cost of education.

They do so first by substituting technicians for professionally trained teachers, using them to increase the efficiency of the teacher. These technicians do not require 16 years of schooling. They are specialists who can be trained to perform a few tasks well after only eight, six or even fewer years of schooling. The pool of people with this amount of schooling is not 1%, it is 10% or more in most Asian countries, and the proportion is growing rapidly. The cost of training such technicians and the cost of paying them once they are trained are considerably less than the corresponding costs for adequately trained professional teachers.

The teaching technologies can contribute most obviously to solution of the quantitative problem, whether this problem is expressed in terms of the number of graduate teachers required or the cost of training and paying them. But they can also contribute to solution of the qualitative problem. It is clear that technologies such as audio-visual aids and educational television, to say nothing of blackboards and books, which are also forms of technology, can improve the quality of teaching when they are used as supplements to the work of the professional teacher. It is less generally known that the quality of teaching produced by the technologies alone, that is, used in the absence of professional teachers, frequently equals and sometimes exceeds the quality of teaching produced by professional teachers, including graduate teachers. The evidence is available in many reports of experimental evaluations of both the physical technologies -- books, audio-visual equipment, broadcasting -- and the psychotechnologies -- programed learning and programed teaching.

Not only can the teaching technologies reduce the number of highly trained teachers who are needed, they can reduce costs in other ways. They provide the means of teaching without textbooks, without school buildings and without other costly elements of conventional education. For those who have been misled by the term "technology", it should be added that many of them, especially the psychotechnologies, can teach without machines.

The Seven Teaching Technologies

There are seven teaching technologies. There are other educational technologies such as measurement and evaluation and scientific planning and management, but here we are concerned chiefly with those educational technologies which are directly aimed at improving the effiency and quality of teaching.

Table 2 lists the seven types of teaching technology. Historically, the first of these is Audio-visual Aids. Long before computers, television, programed instruction or even books were invented, teachers drew pictures in the sand with their finger or a stick. Then came the blackboard and more recently the various recording and projection systems. Audio-visual materials may be used as a substitute for textbooks and its use is not limited to school buildings. A blackboard or, for that matter, a moving picture projector will work as well under a tree or in a village courtyard or community center as it does in a school building.

Chronologically, books, based on the technology of printing, come next. For those who could read, books provided one of the first forms of self instruction. They can be used without teachers, and they also do not require school buildings.

Educational radio probably comes next. It has been used for many years in Australia to teach children who live where there are neither school buildings nor teachers. Educational radio utilizes teachers at the microphone, of course, but it can use them very economically compared with conventional classroom teaching.

Table 2

The Teaching Technologies

1. Audio Visual Aids
2. Books
3. Educational Radio
4. Educational Television
5. Computer Assisted Instruction
6. Programed Learning
7. Programed Teaching

The remaining four teaching technologies are all relatively recent inventions. SESAME street, perhaps the best known example of educational television, is sometimes used to teach in schools. But does it require a graduate teacher to sit with the pupils in front of the television receiver? The production of ETV programs makes use of highly qualified teachers, but very few of them. Many of the people that appear on the screen are not teachers, they are actors. From the point of view of the teaching profession actors in front of the camera are no less technicians than are the camera men behind it.

Computer Assisted Instruction is a new form of teaching technology still in the early stages of development. It may be considered as an elaborate and highly mechanized form of programed instruction. So far, little information is available concerning its effectiveness or its cost. At the moment it does not appear to be a feasible solution to educational problems in Asia.

The remaining teaching technologies on the list are two quite different forms of programed instruction. The first, Programed Learning, is a self-instructional technique. It does not require school buildings and it produces learning without teachers except for the few who may be involved in the development of programs. In practice, it is most commonly used as a replacement for textbooks, for people who can read but not well enough to teach themselves from books.

Programed Learning is often assumed to be inseparable from teaching machines, but this conception is changing. For most purposes, teaching machines are being replaced by the far less expensive programed texts. These are simply books with a format and content organization especially designed to facilitate learning. The development of programed texts has served to emphasize something which is often forgotten when educational technology is mentioned. It is the software, that is, the program, rather than the hardware which does the teaching.

Except perhaps for Computer Assisted Instruction, Programed Teaching is the newest of the teaching technologies. It is a psychotechnology rather than a physical technology -- an application of the science of psychology, not physics. For our purposes it may be considered simply as an efficient way of training and using people -- teaching technicians with very limited qualifications -- to do very effective teaching. There is evidence that for attaining certain educational objectives these technicians can be more effective than graduate teachers trained in the traditional ways.

Programed teaching is a form of programed instruction — like programed learning it utilizes programs carefully engineered in terms of psychological and pedagogical principles to maximize learning. But the two techniques differ in significant ways. Programed teaching is not a self-instructional technique. It programs teaching technicians -- people, not machines -- to teach. And unlike most programed learning techniques, it does not depend upon the pupil's ability to read, which is an important consideration when we are concerned with teaching at the primary level.

All of the teaching technologies have one feature in common which is the basis for their potential value as alternatives to the conventional solutions to educational problems. All of them reduce the need for highly trained professional teachers by increasing their efficiency -- by multiplying the number of pupils one teacher can reach or by delegating some of the teachers' less demanding or less professional functions to books, machines or technicians. This feature is important at all levels of education since the salaries of professional teachers is the largest single item in educational budgets. It is an especially important factor at the primary level.

In spite of potential advantages, the technologies have not been widely adopted, which suggests that there are disadvantages and other factors to be considered. They have their limitations and their failures. Misused they may do little more than add to the cost of education. They are innovations which imply changes in the present ways of doing things. And whatever the inadequacies of the present schools, they are successful in the sense that schooling is highly correlated with the acquisition of material things, personal freedom and power. For this reason, adoption of the teaching technologies is often opposed most strongly by those who could benefit most from them.

One critical factor is the shortage of information concerning them. Most of the teaching technologies are relatively new and their use is not widespread, so that we know relatively little about them. We know even less about their use under Asian conditions. Most of the available programs and the ways of using them in educational systems are essentially first attempts. We have had little opportunity to experiment, to repeatedly try out and refine preliminary forms and to compare a variety of forms under a variety of conditions. We have little solid information about their costs. Most reports of educational technology projects

emphasize their theoretical advantages and give some indication of their effectiveness as teaching devices, but few say anything about the cost of development, the cost of administration and especially the cost of the infra-structure necessary to maintain them in full scale working educational systems rather than as isolated experimental miniatures. We know that development costs are high but in most cases we can not estimate these costs accurately.

The Teaching Technologies in Educational Systems

There are three basic ways in which the teaching technologies may be used as components of educational systems. One is to superimpose them on present school systems as supplements to the functions of the professional teacher. This is the way teaching technologies have been used most frequently in prosperous countries, where cost is not a major consideration and success depends primarily on their effectiveness in improving quality. In less prosperous countries they have also been used this way, usually on a small scale with external funding. In such pilot studies they are often successful, but it is a notorious fact that once outside support is withdrawn most such projects disappear. Used as supplements to a conventional system, teaching technologies may significantly add to the cost, and in underfinanced educational systems cost is a primary consideration.

A second way of utilizing the teaching technologies is to use them not as supplements but to replace unnecessarily expensive elements. For example, much of the teaching of reading, writing and arithmetic at the beginning level involves many repetitions of relatively simple operations. It does not require a graduate teacher with 16 or even 12 years of education to carry out these operations successfully. Most such operations can be performed successfully by technicians and some of them by machines. Given a teaching program carefully engineered by a team of experts, a teaching technician or a teaching machine can often produce better results than the graduate teacher, who has been trained not to engineer but to improvise the details of her teaching operations from moment to moment.

One example of such a system utilized older pupils as teaching technicians, thus combining modern teaching technology with the monitor system, which was originally developed in India some 170 years ago. Early applications of the monitor system in some instances achieved a pupil-teacher ratio of 250. Eventually it failed, primarily because of the inadequacy of the monitors as teachers. Although they were not professional teachers they were given the responsibilities of professionals with little or no training and with inadequate support in the form of teaching materials. Today we have the means to eliminate the causes of this early failure.

Another example: in the Western range area of the United States the population is very sparse, so that the total number of pupils living within 50 miles of a secondary school may be less than 100. To provide the variety of curriculum which Americans have come to expect would require far more teachers than such a small school can afford. A school of this size can not justify the teaching staff required to provide four years of mathematics, three years of two or three foreign languages, several sciences, advanced courses in history and literature, to say nothing of physical education and vocational subjects which are taken for granted in larger high schools. This problem has been solved by providing a teaching staff for a few core subjects and utilizing programed instruction for teaching special topics or advanced subjects which are requested by only a few pupils each year. There are other examples in which the mass media have similarly been used to extend the curriculum.

A third way of utilizing the educational technologies effectively is to incorporate them into entirely new systems, such as those proposed by Dr. Illich and some of his colleagues. Although this group has not given much emphasis to the possibility of utilizing educational technology in the systems they have proposed, there is reason to consider such a combination.

Some quite radical systems may be well suited to Asian conditions. For example, the conventional school system might be confined to the teaching of the basic tool subjects, reading, writing and arithmetic. Further education would be made available primarily through the mass media and the provision of libraries and other self-instructional facilities. It would probably be necessary to supplement these facilities by studios, shops and laboratories supervised by qualified professional teachers supported by teaching technicians. In such a system much of the

teaching of art could be done by artists, wood working by carpenters and cabinet makers, metal working by mechanics and machinists, agriculture by farmers, and so on. Most of these artists and craftsman would be trained not as professional teachers but as teaching technicians. The basic idea here is not really new -- it is simply an extension of the British Open University to the primary level.

Another possible system is the inverse of the one just described. Suppose for example, that the teaching of reading, writing and arithmetic was abolished in the public schools. Proficiency in the three R's would become not a product of the public school system, but an entrance requirement. Schooling, academic or technical, could begin at what we now call the fourth, sixth or tenth grade levels, with appropriate performance in the three R's required for admission.

The teaching of reading, writing and arithmetic would be done outside of schools entirely. The necessary instruction might be providedby mass media or teaching machines in combination with teaching technicians from the private sector. The latter might be parents, otherwise unemployed housewives or roving one-man private schools. One can visualize an over-the-shoulder school, an education-hawker with paper and pencils on one end of a shoulder yoke, books at the other, ready to set up shop anywhere, even in a school building. These specialist technicians might well be trained and equipped by Ministries of Education but paid by their pupils in cash or kind or community-provided educational credits. They might be paid on small-scale performance contracts, not for time expended but for results achieved, as measured by their pupils' performance on examinations, by their admission to the public schools, or by their employment.

Even this system, radical as it may appear, is not entirely new. It is simply a modernized form of the present system of using tutors to prepare students to pass critical examinations, improved, perhaps by substituting teaching technicians for tutors of unknown qualifications. The present tutoring system is most widely used when the public schools are quantitatively or qualitatively inadequate. These, of course, are the two problems with which we began.

What Needs to be Done?

We have suggested seven teaching technologies and three general ways in which they could be used as alternatives to conventional solutions to basic educational problems. Every member of this audience could suggest other promising ways of using the technologies to solve problems. Proposing alternatives is the most pleasant and the easiest part of the task. But what else needs to be done before we reach the more difficult task of deciding which among many alternatives should be implemented?

First it is necessary to examine problems at a very basic level, not asking what difficulties we are having in administering the present system, but rather, what are the needs of society and which of them is the present system failing to satisfy?

The shortage of trained teachers, for example, is a problem formulated at the administrative level. This formulation implies its own solution, i.e., train more teachers. But proposal of this conventional solution automatically eliminates many alternative solutions before they are even considered. A more basic formulation in terms of inadequate quantity and quality of education leaves the way open for consideration of many alternative solutions. Problems must also be considered in terms of objectives — for an educational system these are the needs of the larger society within which it functions. If, for example, the objectives of rural schools were restricted to vocational training, then poor teaching of certain academic subjects would be no problem at all.

Given a clear understanding of problems and objectives, the next step is the consideration of alternatives, which we are doing at this meeting. Then comes the major task of deciding among them. This requires much analysis of effectiveness, feasibility, cost and cost-benefit ratios, followed by tentative choices of one or more alternatives which must be tried and evaluated, first on a small scale, then rejected or revised and evaluated again. This cycle may be repeated many times and on an increasing scale before a final decision is made. Only then is the innovation put into practical full-scale use.

Since the teaching technologies are relatively new and untried, especially in Asia, this decision-making process must be carried out in several stages, first to provide information about the technologies themselves and later to evaluate the educational systems in which they may function as components.

The name of this procedure is the systems approach. And this, of course, is what INNOTECH is all about.

THE ALTERNATIVE TO SCHOOLING

by Ivan Illich
Center for Intercultural Documentation (CIDOC)
Cuernavaca, MEXICO

THE TRIPLE ILLEGITIMACY

For generations we have tried to make the world a better place by providing more and more schooling, but so far the endeavor has failed. What we have learned instead is 1) that forcing all children to climb an open ended education ladder cannot enhance quality but must favor the individual who starts out earlier, healthier, or better prepared; 2) that enforced instruction deadens for most people the will for independent learning; 3) and that knowledge treated as a commodity, delivered in packages, and accepted as private property once it is acquired, must always be scarce.

NEW WAYS OF "PRODUCING" EDUCATION

In response, critics of the educational system are now proposing strong and unorthodox remedies that range from the voucher plan, which would enable each person to buy the education of his choice on an open market, to shifting the responsibility for education from the school to the media and to apprenticeship on the job. Some individuals foresee that the school will have to be disestablished just as the church was disestablished all over the world during the last two centuries. Other reformers propose to replace the universal school with various new systems that would, they claim, better prepare everybody for life in modern society. These proposals for new educational institutions fall into three broad categories: 1) the reformation of the classroom within the school system; 2) the dispersal of free schools throughout society; 3) and the transformation of all society into one huge classroom. But these three approaches -- the reformed classroom, the free school, and the worldwide classroom -- represent three stages in a proposed escalating production of education in which each step threatens more subtle and more pervasive social control than the one it replaces.

THE FUTILITY OF "UNIVERSAL" EDUCATION

I believe that the disestablishment of the school has become inevitable and that this end of an illusion should fill us with hope. But I also believe that the end of the "age of schooling" could usher in the epoch of the global school-house that would be distinguishable only in name from a global madhouse or global prison in which education, correction, and adjustment become synonymous. I therefore believe that the breakdown of the school forces us to look beyond its imminent demise and to face fundamental alternatives in education. Either we can work for fearsome and potent new educational devices that fit all men into a world which progressively becomes more opaque and forbidding for man, or we can set the conditions for a new era in which technology would be used to make society more simple and transparent, so that all men can once again know the facts and use the tools that shape their lives. In short, we can disestablish schools or we can deschool culture.

THE HIDDEN CURRICULUM OF SCHOOLING

In order to see clearly the alternatives we face, we must first distinguish education from schooling, which means separating the humanistic intent of the teacher from the impact of the invariant structure of the school. This hidden structure constitutes a course of instruction that stays forever beyond the control of the teacher or of his school board. It conveys indelibly the message that only through schooling can an individual prepare himself for adulthood in society, that what is not taught in school is of little value, and that what is learned outside of school is not worth knowing. I call it the hidden curriculum of schooling, because it constitutes the unalterable framework of the system within which all changes in the curriculum are made.

The hidden curriculum is always the same regardless of school or place. It requires all children of a certain age to assemble in groups of about thirty, under the authority of a certified teacher, for some 500 to 1,000 or more hours each year. It doesn't matter whether the curriculum is designed to teach the principles of fascism, liberalism, Catholicism, or socialism; or whether the purpose of the school is to produce Soviet or United States citizens, mechanics, or doctors. It makes no difference whether the teacher is authoritarian or permissive, whether he imposes his own creed or teaches students to think for themselves. What is important is that students learn that education is valuable when it is acquired in the school through a graded process of consumption; that the degree of success the individual will enjoy in society depends on the amount of

learning he consumes; and that learning about the world is more valuable than learning from the world.

It must be clearly understood that the hidden curriculum translates learning from an activity into a commodity -- for which the school monopolizes the market. In all countries knowledge is regarded as the first necessity for survival, but also as a form of currency more liquid than rubles or dollars. We have become accustomed, through Karl Marx's writings, to speak about the alienation of the worker from his work in class society. We must now recognize the estrangement of man from his learning when it becomes the product of a service profession and he becomes the consumer.

The more learning an individual consumes, the more "knowledge stock" he acquires. The hidden curriculum therefore defines a new class structure for society within which the large consumers of knowledge -- those who have acquired large quantities of knowledge stock -- enjoy special privileges, high income, and access to the more powerful tools of production. This kind of knowledge-capitalism has been accepted in all industrialized societies and establishes a rationale for the distribution of jobs and income. (This point is especially important in the light of the lack of correspondence between schooling and occupational competence established in studies such as Ivar Berg's Education and Jobs: The Great Training Roberry.)

"EDUCATION" AS A RECENT, WESTERN INVENTION

The endeavor to put all men through successive stages of enlightenment is rooted deeply in alchemy, the Great Art of the waning Middle Ages. John Armos Comenius, a Moravian bishop, self-styled Pansophist, and pedagogue, is rightly considered one of the founders of the modern schools. He was among the first to propose seven or twelve grades of compulsory learning. In his Magna Didactica, he described schools as devices to "teach everybody everything" and outlined a blueprint for the assembly-line production of knowledge, which according to his method would make education cheaper and better and make growth into full humanity possible for all. But Comenius was not only an early efficiency expert, he was an alchemist who adopted the technical language of his craft to describe the art of rearing children. The alchemist sought to "refine" based elements "by leading their distilled spirits through seven or twelve "stages" of successive "enlightenment", so that "for their own and all the world's benefit" they might be

"transmuted" into gold. Of course, alchemists failed no matter how often they tried, but each time their "science" yielded new reasons for their failure, and they tried again.

Pedagogy opened a new chapter in the history of Ars Magna. Education became the search for an alchemic process that would bring forth a new type of man, who would fit into an environment created by scientific magic. But, no matter how much each generation spent on its schools, it always turned out that the majority of people were unfit for enlightenment by this process and had to be discarded as unprepared for life in a man-made world.

Educational reformers who accept the idea that schools have failed fall into three groups. The most respectable are certainly the great masters of alchemy who promise better schools. The most seductive are popular magicians, who promise to make every kitchen into an alchemic lab.

1ST FUTILE PROPOSAL: ALTERNATIVE CURRICULA

The most sinister are the new Masons of the Universe, who want to transform the entire world into one huge temple of learning. Notable among today's masters of alchemy are certain research directors employed or sponsored by the large foundations who believe that schools, if they could somehow be improved, could also become economically more feasible than those that are now in trouble, and simultaneously could sell a larger package of services. Those who are concerned primarily with the curriculum claim that it is outdated or irrelevant. So the curriculum is filled with new packaged courses on African Culture, North American Imperialism, Women's Lib, Pollution, or the Consumer Society. Passive learning is wrong -- it is indeed -- so we graciously allow students to decide what and how they want to be taught. Schools are prison houses. Therefore, principals are authorized to approve teach-outs, moving the school desks to a roped-off Harlem street. Sensitivity training becomes fashionable. So, we import group therapy into classroom. School, which was supposed to teach everybody everything now becomes all things to all children.

Other critics emphasize that schools make inefficient use of modern science. Some would administer drugs to make it easier for the instructor to change the child's behavior. Others would transform school into a stadium for educational gaming. Still others would electrify the classroom. If they are simplistic disciples of McLuhan, they replace blackboards and textbooks with multimedia happenings; if they follow Skinner, they claim to be able to modify behavior more efficiently than old-fashioned classroom practitioners can.

Most of these changes have, of course, some good effects. The experimental schools have fewer truants. Parents do have a greater feeling of participation in a decentralized district. Pupils, assigned by their teacher to an apprenticeship, do often turn out more competent than those who stay in the classroom. Some children do improve their knowledge of Spanish in the language lab because they prefer playing with the knobs of a tape recorder to conversations with their Puerto Rican peers. Yet all these improvements operate within predictably narrow limits, since they leave the hidden curriculum of school intact.

2ND FUTILE PROPOSAL: FREE SCHOOLS

Some reformers would like to shake loose from the hidden curriculum, but they rarely succeed. Free schools that lead to further free schools produce a mirage of freedom, even though the chain of attendance is frequently interrupted by long stretches of loafing. Attendance through seduction inculcates the need for educational treatment more persuasively than the reluctant attendance enforced by a truant officer. Permissive teachers in a padded classroom can easily render their pupils impotent to survive once they leave.

Learning in these schools often remains nothing more than the acquisition of socially valued skills defined, in this instance, by the consensus of a commune rather than by the decree of a school board. New presbyter is but old priest writ large.

Free schools, to be truly free, must meet two conditions: First, they must be run in a way to prevent the reintroduction of the hidden curriculum of graded attendance and certified students studying at the feet of certified teachers. And, more importantly, they must provide a framework in which all participants -- staff and pupils -- can free themselves from the hidden foundations of a schooled society The first condition is frequently incorporated in the stated aims of a free school. The second condition is only rarely recognized, and is difficult to state as the goal of a free school.

It is useful to distinguish between the hidden curriculum, which I have described, and the occult foundations of schooling. The hidden curriculum is a ritual that can be considered the official initiation into modern society, institutionally established through the school. It is the purpose of this ritual to hide from its participants the contradictions between the myth of an egalitarian society and the class-conscious reality it certifies. Once they are recognized as such,

rituals lose their power, and this is what is now beginning to happen to schooling. But there are certain fundamental assumptions about growing up -- the occult foundations -- which now find their expression in the ceremonial of schooling, and which could easily be reinforced by what free schools do.

Among these assumptions is what Peter Schrag calls the "immigration syndrome," which impels us to treat all people as if they were newcomers who must go through a naturalization process. Only certified consumers of knowledge are admitted to citizenship. Men are not born equal, but are made equal through gestation by Alma Mater.

The rhetoric of all schools states that they form a man for the future, but they do not release him for his task before he has developed a high level of tolerance to the ways of his elders: education for life rather than in everyday life. Few free schools can avoid doing precisely this. Nevertheless they are among the most important centers from which a new life-style radiates, not because of the effect their graduates will have but, rather, because elders who choose to bring up their children without the benefit of properly ordained teachers frequently belong to a radical minority and because their preoccupation with the rearing of their children sustains them in their new style.

3RD FUTILE PROPOSAL: NEW TECHNOLOGY

The most dangerous category of educational reformer is one who argues that knowledge can be produced and sold much more effectively on an open market than on one controlled by school. These people argue that most skills can be easily acquired from skill-models if the learner is truly interested in their acquisition; that individual entitlements can provide a more equal purchasing power for education. They demand a careful separation of the process by which knowledge is acquired from the process by which it is measured and certified. These seem to me obvious statements. But it would a fallacy to believe that the establishment of a free market for knowledge would constitute a radical alternative in education.

KNOWLEDGE - CAPITALISM

The establishment of a free market would indeed abolish what I have previously called the hidden curriculum of present schooling -- its age-specific attendance at a graded curriculum. Equally, a free market would at first give the appearance of counteracting

what I have called the occult foundations of a schooled society: the "immigration syndrome," the institutional monopoly of teaching, and the ritual of linear initiation. But at the same time a free market in education would provide the alchemist with innumerable hidden hands to fit each man into the multiple tight little niches a more complex technocracy can provide.

Many decades of reliance on schooling has turned knowledge into a commodity, a marketable staple of a special kind. Knowledge is now regarded simultaneously as a first necessity and also as society's most previous currency. (The transformation of knowledge into a commodity is reflected in a corresponding transformation of language. Words that formerly functioned as verbs are becoming nouns that designate possessions. Until recently dwelling and learning and even healing designated activities. They are now usually conceived as commodities or services to be delivered. We talk about the manufacture of housing or the delivery of medical care. Men are no longer regarded fit to house or heal themselves. In such a society people come to believe that professional services are more valuable than personal care. Instead of learning how to nurse grandmother, the teen-ager learns to picket the hospital that does not admit her.) This attitude could easily survive the disestablishment of school, just as affiliation with a church remained a condition for office long after the adoption of the First Amendment. It is even more evident that test batteries measuring complex knowledge-packages could easily survive the disestablishment of school -- and with this would go the compulsion to obligate everybody to acquire a minimum package in the knowledge stock. The scientific measurement of each man's worth and the alchemic dream of each man's "educability to his full humanity" would finally coincide. Under the appearance of a "free" market, the global village would turn into an environmental womb where pedagogic therapists control the complex navel by which each man is nourished.

At present schools limit the teacher's competence to the classroom. They prevent him from claiming man's whole life as his domain. The demise of school will remove this restriction and give a semblance of legitimacy to the life-long pedagogical invasion of everybody's privacy. It will open the way for a scramble for "knowledge" on a free market, which would lead us toward the paradox of a vulgar, albeit seemingly egalitarian, meritocracy. Unless the concept of knowledge is transformed, the disestablishment of school will lead to a wedding between a growing meritocratic system that separates learning from certification and a society committed to provide therapy for each man until he is ripe for the gilded age.

PRESENT REFORM TENDS TO TIGHTEN TECHNOCRACY

For those who subscribe to the technocratic ethos, whatever is technically possible must be made available at least to a few whether they want it or not. Neither the privation nor the frustration of the majority counts. If cobalt treatment is possible, then the city of Tegucigalpa needs one apparatus in each of its two major hospitals, at a cost that would free an important part of the population of Honduras from parasites. If supersonic speeds are possible, then it must speed the travel of some. If the flight to Mars can be conceived, then a rationale must be found to make it appear a necessity. In the technocratic ethos poverty is modernized: Not only are old alternatives closed off by new monopolies, but the lack of necessities is also compounded by a growing spread between those services that are technologically feasible and those that are in fact available to the majority.

PEDAGOGICAL HYBRIS

A teacher turns "educator" when he adopts this technocratic ethos. He then acts as if education were a technological enterprise designed to make man fit into whatever environment the "progress" of science creates. He seems blind to the evidence that constant obsolescence of all commodities comes at a high price: the mounting cost of training people to know about them. He seems to forget that the rising cost of tools is purchased at a high price in education: They decrease the labor intensity of the economy, make learning on the job impossible or, at best, a privilege for a few. All over the world the cost of educating men for society rises faster than the productivity of the entire economy, and fewer people have a sense of intelligent participation in the commonwealth.

NOT NEW EDUCATION BUT A NEW SET OF PAEDAGOGICAL DESIGN CRITERIA FOR TECHNOLOGY

RECOVER THE POWER TO LEARN

A revolution against those forms of privilege and power, which are based on claims to professional knowledge, must start with a transformation of consciousness about the nature of learning. This means, above all, a shift of responsibility for teaching and learning. Knowledge can be defined as a commodity only as long as it is viewed as the result of institutional enterprise or as the fulfillment of institutional objectives. Only when a man recovers the sense of personal responsibility for what he learns and teaches can this spell be broken and the alienation of learning from living be overcome.

The recovery of the power to learn or to teach means that the teacher who takes the risk of interfering in somebody else's private affairs also assumes responsibility for the results. Similarly, the student who exposes himself to the influence of a teacher must take responsibility for his own education. For such purposes educational institutions -- if they are at all needed -- ideally take the form of facility centers where one can get a roof of the right size over his head, access to a piano or a kiln, and to records, books, or slides. Schools, TV stations, theaters, and the like are designed primarily for use by professionals. Deschooling society means above all the denial of professional status for the second-oldest profession, namely teaching. The certification of teachers now constitutes an undue restriction of the right to free speech: the corporate structure and professional pretensions of journalism an undue restriction on the right to free press. Compulsory attendance rules interfere with free assembly. The deschooling of society is nothing less than a cultural mutation by which a people recovers the effective use of its Constitutional freedoms: learning and teaching by men who know that they are born free rather than treated to freedom. Most people learn most of the time when they do whatever they enjoy; most people are curious and want to give meaning to whatever they come in contact with; and most people are capable of personal intimate intercourse with others unless they are stupefied by inhuman work or turned off by schooling.

The fact that people in rich countries do not learn much on their own constitutes no proof to the contrary. Rather it is a consequence of life in an environment from which, paradoxically, they cannot learn much, precisely because it is so highly programed. They are constantly frustrated by the structure of contemporary society in which the facts on which decisions can be made have become elusive. They live in an environment in which tools that can be used for creative purposes have become luxuries, an environment in which channels of communication serve a few to talk to many.

A modern myth would make us believe that the sense of impotence with which most men live today is a consequence of technology that cannot but create huge systems. But it is not technology that makes systems huge, tools immensely powerful, channels of communication one-directional. Quite the contrary: Properly controlled, technology could provide each man with the ability to understand his environment better, to shape it powerfully with his own hands, and to permit him full intercommunication to a degree never before possible. Such an alternative use of technology constitutes the central alternative in education.

ACCESS TO THINGS

If a person is to grow up he needs, first of all, access to things, to places and to processes, to events and to records. He needs to see, to touch, to tinker with, to grasp whatever there is in a meaningful setting. This access is now largely denied. When knowledge became a commodity, it acquired the protections of private property, and thus a principle designed to guard personal intimacy became a rationale for declaring facts off limits for people without the proper credentials. In schools teachers keep knowledge to themselves unless it fits into the day's program. The media inform, but exclude those things they regard as unfit to print. Information is locked into special languages, and specialized teachers live off its retranslation. Patents are protected by corporations, secrets are guarded by bureaucracies, and the power to keep others out of private preserves -- be they cockpits, law offices, junkyards, or clinics -- is jealously guarded by professions, institutions, and nations. Neither the political nor the professional structure of our societies, East and West, could withstand the elimination of the power to keep entire classes of people from facts that could serve them. The access to facts that I advocate goes far beyond truth in labeling. Access must be built into reality, while all we ask from advertising is a guarantee that it does not mislead. Access to reality constitutes a fundamental alternative in education to a system that only purports to teach about it.

ACCESS TO FACTS

Abolishing the right to corporate secrecy — even when professional opinion holds that this secrecy serve the common good — is, as shall presently appear, a much more radical political goal than the traditional demand for public ownership or control of the tools of production. The socialization of tools without the effective socialization of know-how in their use tends to put the knowledge-capitalist into the position formerly held by the financier. The technocrat's only claim to power is the stock he holds in some class of scarce and secret knowledge, and the best means to protect its value is a large and capital-intensive organization that renders access to know-how formidable and forbidding.

RANDOM ACCESS TO SKILLS

It does not take much time for the interested learner to acquire almost any skill that he wants to use. We tend to forget this in a society where professional teachers monopolize entrance into all fields, and thereby stamp teaching by uncertified individuals as quackery. There are few mechanical skills used in industry or research that are as demanding, complex, and dangerous as driving cars, a skill that most people quickly acquire from a peer. Not all people are suited for advanced logic, yet those who are make rapid progress if they are challenged to play mathematical games at an early age. One out of twenty kids in Cuernavaca can beat me at Wiff 'n' Proof after a couple of weeks' training. In four months all but a small percentage of motivated adults at our CIDOC center learn Spanish well enough to conduct academic business in the new language.

SKILL-EXCHANGE

A first step toward opening up access to skills would be to provide various incentives for skilled individuals to share their knowledge. Inevitably, this would run counter to the interest of guilds and professions and unions. Yet, multiple apprenticeship is attractive: It provides everybody with an opportunity to learn something about almost anything. There is no reason why a person should not combine the ability to drive a car, repair telephones and toilets, act as a midwife, and function as an architectural draftsman. Special-interest groups and their disciplined consumers would, of course, claim that the public needs the protection of a professional guarantee. But this argument is now steadily being

challenged by consumer protection associations. We have to take much more seriously the objection that economists raise to the radical socialization of skills: that "progress" will be impeded if knowledge -- patents, skills, and all the rest -- is democratized. Their argument can be faced only if we demonstrate to them the growth rate of futile diseconomies generated by any existing educational system.

TRANSPARENT TECHNOLOGY

Access to people willing to share their skills is no guarantee of learning. Such access is restricted not only by the monopoly of educational programs over learning and of unions over licensing but also by a technology of scarcity. The skills that count today are know-how in the use of highly specialized tools that were designed to be scarce. These tools produce goods or render services that everybody wants but only a few can enjoy, and which only a limited number of people know how to use. Only a few privileged individuals out of the total number of people who have a given disease ever benefit from the results of sophisticated medical technology, and even fewer doctors develop the skill to use it.

The same results of medical research have, however, also been employed to create a basic medical tool kit that permits Army and Navy medics, with only a few months of training, to obtain results, under battlefield conditions, that would have been beyond the expectations of full-fledged doctors during World War II. On an even simpler level any peasant girl could learn how to diagnose and treat most infections if medical scientists prepared dosages and instructions specifically for a given geographic area.

All these examples illustrate the fact that educational considerations alone suffice to demand a radical reduction of the professional structure that now impedes the mutual relationship between the scientist and the majority of people who want access to science. If this demand were heeded, all men could learn to use yesterday's tools, rendered more effective and durable by modern science, to create tomorrow's world.

Unfortunately, precisely the contrary trend prevails at present. I know a coastal area in South America where most people support themselves by fishing from small boats. The outboard motor is certainly the tool that has changed most dramatically the lives of these coastal fishermen. But in the area I have surveyed, half of all outboard motors that were purchased between 1945 and 1950 are still

kept running by constant tinkering, while half the motors purchased in 1965 no longer run because they were not built to be repaired. Technological progress provides the majority of people with gadgets they cannot afford and deprives them of the simpler tools they need.

Metals, plastics, and ferro cement used in building have greatly improved since the 1940s and ought to provide more people the opportunity to create their own homes. But while in the United States, in 1948, more than 30 per cent of all one-family homes were owner-built, by the end of the 1960s the percentage of those who acted as their own contractors had dropped to less than 20 per cent.

The lowering of the skill level through so-called economic development becomes even more visible in Latin America. Here most people still build their own homes from floor to roof. Often they use mud, in the form of adobe, and thatchwork of unsurpassed utility in the moist, hot, and windy climate. In other places they make their dwellings out of cardboard, oil-drums, and other industrial refuse. Instead of providing people with simple tools and highly standardized, durable, and easily repaired components, all governments have gone in for the mass production of low cost buildings. It is clear that not one single country can afford to provide satisfactory modern dwelling units for the majority of its people. Yet, everywhere this policy makes it progressively more difficult for the majority to acquire the knowledge and skills they need to build better houses for themselves.

TECHNOLOGY DESIGNED FOR NON-PROFESSIONAL USE

Educational considerations permit us to formulate a second fundamental characteristic that any post-industrial society must possess: a basic tool kit that by its very nature counteracts technocratic control. For educational reasons we must work toward a society in which scientific knowledge is incorporated in tools and components that can be used meaningfully in units small enough to be within the reach of all. Only such tools can socialize access to skills. Only such tools favor temporary associations among those who want to use them for a specific occasion. Only such tools allow specific goals to emerge in the process of their use, as any tinkerer knows. Only the combination of guaranteed access to facts and of limited power in most tools renders it possible to envisage a subsistence economy capable of incorporating the fruits of modern science.

The development of such a scientific subsistence economy is unquestionably to the advantage of the overwhelming majority of all people in poor countries. It is also the only alternative to progressive pollution, exploitation, and opaqueness in rich countries. But, as we have seen, the dethroning of the GNP cannot be achieved without simultaneously subverting GNE (Gross National Education -- usually conceived as manpower capitalization). An egalitarian economy cannot exist in a society in which the right to produce is conferred by schools.

MODERN SUBSISTENCE ECONOMY

The feasibility of a modern subsistence economy does not depend on new scientific inventions. It depends primarily on the ability of a society to agree on dundamental, self-chosen anti-bureaucratic and anti-technocratic restraints.

These restraints can take many forms, but they will not work unless they touch the basic dimensions of life. (The decision of Congress against development of the supersonic transport plane is one of the most encouraging steps in the right direction.) The substance of these voluntary social restraints would be very simple matters that can be fully understood and judged by any prudent man. The issues at stake in the SST controversy provide a good example., All such restraints would be chosen to promote stable and equal enjoyment of scientific know-how. The French say that it takes a thousand years to educate a peasant to deal with a cow. It would not take two generations to help all people in Latin America or Africa to use and repair outboard motors, simple cars, pumps, medicine kits, and ferro cement machines if their design does not change every few years. And since a joyful life is one of constant meaningful intercourse with others in a meaningful environment, equal enjoyment does translate into equal education.

TOWARDS A STATIONARY STATE

At present a consensus on austerity is difficult to imagine. The reason usually given for the impotence of the majority is stated in terms of political or economic class. What is not usually understood is that the new class structure of a schooled society is even more powerfully controlled by vested interests. No doubt an imperialist and capitalist organization of society provides the social structure within which a minority can have disproportionate influence over the effective opinion of the majority. But in a technocratic society the power of a minority of knowledge capitalists

can prevent the formation of true public opinion through control of scientific know-how and the media of communication. Constitutional guarantees of free speech, free press, and free assembly were meant to ensure government by the people. Modern electronics, photo-offset presses, time-sharing computers, and telephones have in principle provided the hardware that could give an entirely new meaning to these freedoms. Unfortunately, these things are used in modern media to increase the power of knowledge-bankers to funnel their program-packages through international chains to more people, instead of being used to increase true net-works that provide equal opportunity for encounter among the members of the majority.

Deschooling the culture and social structure requires the use technology to make participatory politics possible. Only on the basis of a majority coalition can limits to secrecy and growing power be determined without dictatorship. We need a new environment in which growing up can be classless, or we will get a brave new world in which Big Brother educates us all.

IN-AND OUT-OF-SCHOOL ALTERNATIVES: A SEARCH FOR NEW POSSIBILITIES

by Ekavidya Nathalang
Director, Elementary Education
Ministry of Education
Bangkok, THAILAND

A great deal of criticism about the failure of school systems has been exchanged world-wide during the passing year causing, on the positive side, a profound 'shake up' effect among the widest circle of educators while, on the negative side, such contagious feelings of bitterness, hopelessness, antagonism and sarcasm are overwhelming. All these symptoms, let us hope, are the pains of growth.

This paper deliberately avoids joining in the current crusade against the established educational systems. It would instead try to propose alternative measures. The attempt is naturally grounded on the socio-economic and cultural context of South East Asia. To that effect, I take the liberty of drawing heavily from the efforts to improve Thai education and the manifestations of these efforts in my home country with a hope that these be, to a certain degree, applicable to other countries of South-East Asia, in as much as we are sharing many common problems as well as common needs.

I would like to submit my proposals in two parts in compliance with the title, namely in-school alternatives and out-of-school alternatives respectively.

I

IN-SCHOOL ALTERNATIVES

Despite numerous defects and fallacies in school systems which lead some reconstructionist educators to suggest the de-schooling measure, although, many educators, the majority perhaps, still believe, with some justice, that the school system by its essence is intrinsically useful, correctible and, if you like, reformable. Schooling by any means is an organized situation fostering an intensive learning experience which normally takes a person a much longer time with greater uncertainty to learn outside the school situation. Standing for this belief I would present certain possible alternatives which have been contemplated and in some cases tried out

in Thailand. It will be noticed that I have drawn heavily on my personal experience in the field of primary education, which, I am convinced, is the bedrock of all educational development efforts. May I also be permitted to clarify the use of the term "alternative" in this particular context; when I speak of "alternative" I mean reformatory or remedial measures in education.

ALTERNATIVE ONE: Minimizing Wastage in the School System

One paradox that has been plaguing every education system in South East Asia is a great wastage at every level of education in spite of grossly limited resources. Most countries in this region are still facing the old problem of having only half of the children entering the first school year proceeding successfully to the final elementary grade. The other half repeated the grades or dropped out along the way. In the case of Thailand, for example, 48% of the children entering the first grade repeated the grades somewhere sometime; thus it takes them 5, 6, and in few cases 7 years to finish the fourth grade while another 6% dropout.1/ This phenomenon, allowing for some difference in degree from country to country, is quite typical of the region, and during the past two decades the pattern has not changed to any significant degree. After years of continuing research studies and careful analysis, the Department of Elementary Education eventually came to the conclusion that the wastage issue, in toto, reflects the socio-economic problem of a large number of the poverty-stricken people on one hand and the low efficiency of the schools-mostly in remote rural areas on the other.2/ Many foreign experts, educators and economists alike, used to recommend to the Thai authorities the instant application of an automatic promotion scheme in line with the general practice in most countries. This recommendation was however felt by Thai educators to be too simplistic and unfit for the circumstances despite its respectable justification in terms of learning theory and child psychology for fear that with loose discipline and many inadequacies both on the school's and the students' part, the automatic promotion practice would produce even a greater degree of ignorance and illiteracy. The problem should be dealt with at its roots.

1/ Department of Elementary and Adult Education. Statistics on School Enrolment, 1971. Bangkok, Mimeographed.

2/ a. Department of Elementary and Adult Education, Ministry of Education, "The Studies of Factors Related to Elementary School's Varying Promotion Rate." Bangkok, 1970. pp. 16-17.

b. Department of Elementary and Adult Education, Ministry of Education, "Factors Related to Non-Attendance in the Final Examination of the Elementary School Children at Kanchanaburi." Bangkok, 1966. pp. 12-27.

In the light of the cited research findings and conclusion, a new alternative has been developed in Thailand. First, consideration was focussed upon the school children who cannot advance normally up the grades. To guarantee that they really learn something, the school and the immediate educational authorities are urged to see that every child coming to school is reasonably well fed, well clothed, and well equipped with learning materials and that their average daily attendance is regular. Financial and material provision both from public and private sources is regarded most necessary to materialize this programme. Secondly, the school, once evaluated, is expected, in reasonable time, to improve its programme to meet the required standard as judged by the Standardized National Norm in terms of its management, instruction, teachers quality, facilities, services, and community relations. At present a large number of schools can be immediately classified as having satisfactorily met the required standard. Yet, the poorer ones are in greater number. Greater investment and improvement effort is therefore needed in order to convert such sub-normal schools to normal ones. The underlying principle here to help justify extra effort is simply to spend some more in order to save much more. It is my belief that if the two tasks mentioned above are implemented, the grade failure and the school dropout rate will decrease dramatically, for there is no reason why healthy children learning in a healthy school should fail. To apply or not to apply the automatic promotion scheme will be a question no longer.

In seeking its way to fruition, however, the proposed alternative will face its natural course of difficulties, especially in terms of the financial implications and human factors. What counts more here, in my opinion, is the conceptual validity of the alternative. If, using this alternative, a nation is dealing with the problem at its root and thereby is able to reduce wastage to the possible minimum, then the alternative is worthwhile.

ALTERNATIVE TWO: <u>Another Style of Compulsory Education</u>

Most countries are presently expanding their compulsory schooling to keep children in the school longer and longer, i.e. from 4 to 7 years, 6 to 9 years, and 9 to 10 or 12 years because most educators still have the conventional belief that a longer period in school means better education. Unfortunately, that is not any more the case in as much as the curriculum content and the way of life in the school are frequently irrelevant to the demands of life outside school. Besides, at the International Conference on the World Crisis in Education, held at Williamsburg, Virginia, in October 1967, it was agreed upon by the majority of world educators that:

"... there is indeed a crisis in education's ability to match performance with expectations. The crisis takes two forms. The first is the world-wide disparity between the hope of individuals and needs of society on the one hand, and, on the other, the capabilities of the educational system. The second is an even greater disparity between the developing countries, faced with the cruel restraints of grossly inadequate resources and the developed countries, which are increasingly preoccupied with their own internal needs" 1/

In the case of Thailand, for example, the government had announced the extension of compulsory education from 4 to 7 years of schooling in 1962. Because of economic constraints, this was implemented in only 1240 districts out of 5339 throughout the kingdom in a span of 9 years.2/ To follow the same rate of expansion, it would take Thailand 30 years more to accomplish the complete expansion, not to mention the enormous financial and manpower requirements that would be brought to bear upon the cational authorities concerned. Restrained further by keen competition from many aspects of national development including defence and security programmes, the original hope of having seven years of compulsory education is facing rather gloomy days ahead. Nevertheless, even if the country is able to implement only half of the target, the trouble is by no means reduced. This is because the demand of the young people who finish grade 7 to go on to the secondary school will be huge enough to create a strong pressure on the educational system while the other half who do not continue their schooling will be, in a great many cases, underemployed. The majority of this unskilled and idle youth live in the rural area. Some will seek employment in the cities while a few others especially in the depressed, and politically sensitive areas are prone to be lured to join the insurgents. In any case, they cannot afford to be left alone for good. This has been and remains a critical situation for any developing country like ours.

What truly is the purpose of compulsory education and why do we have to extend the length of time for compulsory schooling? To upgrade the intelligence of the mass of people? To guarantee permanent literacy? To foster the national pride and prestige in the spirit of competition within the community of nations? The answer may or may

---

1/ Philip H. Coombs. The World Educational Crisis. A Systems Analysis, Oxford University Press, N.Y. 1968. p. 175.

2/ Advisory Committee to National Executive Council, Home Affairs, Education Sector, Proposal no. 5, Compulsory Education, Mimeographed, Bangkok, April 1972, p. 1.

not lie in any or all of the questions above depending upon the national policy of each country. Now it may be a good time for us to pause and come to grasp with the reality of the challenge and then look with broader perspectives for a more sensible means of meeting it. We might be able to deal with the seemingly unsurmountable burden if we decide to be less conventional and more adaptive to indigenous circumstances in each country.

In the case of Thailand, there are several schools of thought as to what our compulsory education should be like. While most educators are still debating about the number of years of schooling in the old framework, there is a new group, which recently proposed to the National Executive Council that compulsory education in Thailand be handled in such a way that the people are offered educational opportunities beyond the first four grades in the form of two alternatives:1/

A. Those who finish the 4th grade and wish to continue up the formal stream may have complete liberty to do so. The state has the obligation to provide them a free but not compulsory education. As such, the expansion of the upper elementary grades will go on in a planned proportion with the actual capacities which the country can afford.

B. Those who finish the 4th grade and do not wish to go on attending the upper grades are provided with the opportunity to attend a specially organized class 60 days a year for three consecutive years beyond the fourth grade. At present and in the foreseeable future there will be presumably no less than half of the young people graduating from the 4th grade who will fall under this category, particularly in the rural communities. The curriculum content deemed desirable for these people is intensive in nature, comprising important concepts and skills such as additional literacy skills, modern agricultural concepts and techniques, ecology and preservation of natural resources, family life planning, cooperative concepts and actions, national security and civic action, etc. As an integral part of the curriculum it is also deemed important to have these young people bring in their experiences during the ten-month intervals out on the farm to blend with the given concepts and skills.

1/ Ibid pp. 4-7.

In as much as alternative A. has no special feature, let us leave it intact and discuss alternative B. for further clarification. There are a good many reasons to justify alternative B.

First, the present stage of farming rice as well as other crops is still predominantly seasonal, thus creating alternate periods of rush and relaxed activities for the farmers who constitute the great majority of the population. As a rule, school holidays have been already scheduled to synchronize with this tempo. Should we plan the 60 days intensive training to fit in with the ordinary holiday periods of the year, it would be convenient and practical to every party concerned.

Secondly, child labour is still much needed for farming in our region as a whole. For the school system to release the active 12 year olds from the school to help their parents in their daily work ten months a year could only be advantageous to the economy, even if their work is secondary like taking care of their younger brothers, tending the buffaloes, or doing miscellaneous household chores.

Thirdly, underemployed young people tend to resort to non-productive and even dangerous ventures when they have free time, especially after harvest. Many move to the cities to seek low income temporary jobs and bring back with them the undigested city fads and frills, while not a few are secretly recruited by the insurgents. To keep them occupied with meaningful learning two months a year would be undoubtedly more productive and could serve as preventive measure, against such errings.

Fourthly, a recent research study by the Thai Ministry of Education pointed out that there is a general tendency for the elementary school leavers to deteriorate rapidly in their literacy skills during the first three years after finishing the 4th grade, particularly in the remote rural areas where reading opportunities are rare.1/ We capitalize upon strengthening the literacy skills in harmony with other useful concepts in this critical period, and even if we deal with them for brief periods of 2 months at ten month intervals, I still believe that educatively this will greatly improve or even advance their reading and writing ability to serve a useful end.

1/ Department of Elementary and Adult Education Ministry of Education, Research Study no. 5. The Literacy Status of the Fourth Grade Leavers. Bangkok, 1969, p. 41.

Besides the conduciveness and advantages briefly discussed above, if the alternative is implemented on a nation-wide scale, it will significantly contribute to upgrading the general knowledge and ability of the people at large. It will, as well, relieve the popular pressure for secondary and higher education to come more in termswith the actual capabilities of the country and it will, at the same time, respond better to the realistic needs and circumstances of the local people. This is where the motivation for the new programme lies. Most attractive of all from a practical viewpoint, the proposed alternative will cost only one-tenth of the ordinary expansion upward. In our calculation, because the teaching force could be recruited principally from the regular teaching staff of the local schools during the summer and mid-year vacations, a sizable compensation allowance amounting to 1200 baht or 60 U.S. dollars per teacher per.session plus another 1000 baht or 50 U.S. dollars for the expenses incurred per class of 40 students are just about all that we need to pay each year. The school facilities otherwise unused during school vacation, are readily at our disposal free of charge, saving, as such, the whole lot of capital outlay. The total per unit expense on the basis of this arrangement when compared to that of the ordinary upper elementary grades comes to only one-tenth as stated. What needs to be planned most meticulously in my judgment, is the actual teaching-learning programme and the preparation of the teachers in light of the curriculum intent cited earlier. If these crucial features receive the best thinking available then the chances for success will be greater.

ALTERNATIVE THREE: Curriculum Reform

It will be a total misunderstanding if I am taken as trying, thus far, to solve two basic educational problems in the South East Asian context without considering the validity and the relevance of the curriculum pattern under which the schools are operating their programme. Any alternative measure proposed is bound to be a complete waste unless careful consideration is given to the curriculum issue at stake. I am not, however, proposing any form of curriculum alternative, for no one is ready to be so prophetic without enough understanding of the complexity of each nation. My mission is simply to express the needs and the crucial points at which to break away from the established curriculum trends, overt or hidden, I would leave the more sophisticated and time consuming work of developing the new curriculum to other concerned educators.

What's wrong with the present curriculum trends especially at the elementary and secondary levels? Bennett questioned the validity and relevance of the curriculum offerings in most developing countries. He remarked, for example, that although over eighty percent of the children living in the rural areas are likely to spend their lives earning their living from the land, very little is spent directly on giving them the skills or the new ideas necessary for doing this more effectively than their parents. Priority areas of instruction have not been organized in such a way as both to provide some equality of opportunity, and to meet children's differing requirements i.e. some proceed to secondary education, some get paid employment in the modern sector, and some remain in the rural area.1/

With definite intentions to reform the present curriculum at many levels the Thai Ministry of Education has recently finished the systematic appraisal of the existing curriculum. To mention only a few findings regarded as 'critical indicators', it was reported that the curriculum objectives of the elementary level were too broad and encompassed aiming at too many good things which are too idealistic for attainment of school children, while the curriculum content was primarily subject matter oriented, inducing, in large part, only a narrow cognitive learning. Besides the stated purposes, content prescription, and time allotment proportion, little attention was given to suggesting ways and means for teachers to organize, in the light of the children's need and curiosity, the learning programme, material and desirable environment leading to sensible learning experiences. The teachers were left, in large part, to struggle single-handedly despite their own limited ability. The subject areas were conventional and prototyped allowing little room for inter-disciplinary learning and the introduction of important concepts in ecology, the social sciences, economics, etc. The practical arts subjects are miscellaneous, prototyped and not too responsive to real needs. On the implementation side, achievement is clearly much lower than what is expected in written form.2/

1/ Bennett, Nicholas, Primary Education in Rural Communities: An Investment in ignorance? Journal of the National Education Council. Bangkok, October 1971, pp. 37, 38.

2/ Ministry of Education, The Curriculum Appraisal Committee Report Bangkok, December 1971, Mimeographed.

II

OUT-OF-SCHOOL ALTERNATIVES

Several years ago Robert Jacobs made a very interesting conclusion that, for an average individual, what he has learned in school accounts for only one-fourth of what he actually knows. The rest three-fourth was learned in other situations outside the school. Bennett, in his study on equality of educational opportunity observed that Thailand, like most developing countries devoted almost half of its educational budget to high level manpower orientated education for less than two percent of the population; the other half to providing literacy education for less than 20% of the population and only a negligible amount for the education of the remaining 80% of the population 1/ (the 80% was once, in most cases, the 20% of the population).

Whatever the fact in each country may be, the element of truth here is that we have been giving too little attention to out-of-school education. Everybody in the education and economic circle now seems to give an unprecedented importance to non-formal education. There is no need for me, therefore, to further substantiate its great potentials. In harmony with the three in-school alternatives proposed earlier, I propose here to give the highest priority to the people in rural area who have or have not benefited from the elementary school. They are the mentioned 80%. The following out-of-school alternatives are intended for these people.

ALTERNATIVE FOUR: Village Reading Centres

It has been widely recognized that a very large proportion of the villagers in South East Asia who were once attending local schools are getting rusty in their literacy skills. Many of them forget almost all of what they learned in school for the simple reason that there are no reading materials for them to keep up with. In some isolated areas, the real need to read is not felt yet but the world is shrinking very fast and practically no people in no place can afford to be an island unto themselves. To keep the people's literacy skill function as a means to enrich thinking and experiences, it is deemed necessary that reading materials and reading facilities should be provided as extensively as possible.

1/ Bennett, Nicholas, Economic Development and Equality of Educational Opportunity : The Development Fallacy and the Egalitarian Myth Presented to the 4th Session of the ECAFE Conference of Asian Economic Planners, November 1971, Bangkok, Mimeographed P. 11.

A great deal more can be said about the inadequacy and the fallacies of the existing curriculum pattern. This is not the place to elaborate. In terms of the relevance and validity of the curriculum, however, let me highlight the issue by quoting Paul Goodman who defies any form of preconceived curriculum as follows:

> "We can educate the young entirely in terms of their free choice, with no processing whatever. Nothing can be efficiently learnt, or indeed, learnt at all - other than through parroting or brute training, when acquired knowledge is promptly forgotten after the examination unless it meets need, desire, curiosity, or fantasy. Unless there is a reaching from within, the learning cannot become 'second nature' as Aristotle called true learning." 1/

With a great deal of truth in what Goodman said, we cannot, however, completely avoid "processing". A wise shop keeper should know his customer's potential needs and fantasy and stuff his shop accordingly. At the same time, with his moral conscience, and professional ethics he should not provide what his customers want that is dangerous or illegal, otherwise it would lead to a complete breakdown of the society. What, then, is a potentially more desirable curriculum element in the political, cultural and economic context of the nations in South East Asia? Speaking as a native of South East Asia and without any intention of being dogmatic, I believe people in education should learn carefully what has happened in our societies and what has happened in the more economically advanced countries and then avoid, as much as possible, to follow the mistakes, since economic development and educational development are not necessarily two consistent goals.

If we take curriculum in the accepted sense as a means to improve the quality of life, then 'Good life' and 'freedom from suffering', in terms of the old wisdom of Asia, do not mean material well-being or physical comfort at all. This is the point of departure in forming any curriculum cornerstone. 'Peace' and 'Justice' also need re-interpretation, not to mean balance of power and the equal right to be aggressive, and 'knowledge and wisdom' are definitely two different things. 'Man in harmony with nature'. 'Man against nature' is an issue which we Asians shall have to decide for the sake of our survival. A great deal more 'Meanings' relevant to the curriculum foundation could be found in our future investigations. The problems that lie ahead will be just as momentous as those facing us now. Unless we care to choose what is fundamentally good for us we cannot attempt any kind of "processing" whatever.

1/ Paul Goodman, "Pitiful Waste of Youthful Years", in: Times Educational Supplement, July 16, 1971.

However, the idea of 'library' is frequently frowned upon when applied to the villagers who do not have the reading habit of the educated community. Besides, the tropical climate and life activities in the rural area of South East Asia are, in fact, not very conducive to serious reading. The village reading centre initiated in Thailand is therefore styled to be as informal and inviting as possible to make it harmonize with the activities and the habits of the rural folks. As pioneered by the Adult Education office in the Ministry of Education in Thailand, the village reading centre is housed in a thatched roof structure in the village centre near the market place or at the strategic location where people move in and out in their everyday life. The villagers were summoned to build it. Inside the place selected daily newspapers, magazines, booklets, pamphlets, posters, pictorial books as well as other useful publications are provided principally for casual reading or browsing through in a brief span of time. The place is used also for meeting and talking at leisure for the villagers. I witnessed an interesting scene myself once in the small North Eastern village. One early morning several young men, carrying fishing nets on their shoulders, walk pass the reading house. Glancing at newspaper headlines one of them stops, reads the details, and gets absorbed for ten minutes. Other two fellows then join him spending another ten minutes reading and chatting before they all walk away for their fishing.

It would be nice and more lively, I propose, if at this place there are coffee and cigarettes for sala, a chess to play, a jig saw puzzle or a simple version of scrabble for people to relax with. This can be subtly guided to be organized by the local people themselves. Once properly arranged the reading house will successfully become the center where reading skills are daily practised and information disseminated. In the future this place can be developed with greater sophistication. If the intention is a serious one, the overt manner in organizing and running it should be a casual and informal one. What needs to be financed is not too heavy a burden in comparison with the expected outcomes the reading centre is bound to yield.

In the light of the conceptual framework and the action lines described above, the Thai Ministry of Education has been operating the programme on experimental basis since 1970 with the following working hypotheses:

1. The Reading Center will result in the improvement of literacy for all readers regardless of their academic background.

2. Newspaper reading will change certain attitudes of the readers in such a way as to induce better efficiency among the general public.

3. There should be correlations between number of readers and factors such as sex, academic background, distance between the homes and reading centers, locality of the village, density of the population and the operating procedure.

4. Improvement in reading ability will correlate with regularity (frequency) of the reading.1/

The project was systematically evaluated in 1971, being statistically confirmed of its chance of success, the project was officially accepted and included in the Third National Economic and Social Development plan 1972 - 1976.

ALTERNATIVE FIVE : Functional Literacy and Family Life Planning

For the large enough number of the unfortunate adults (or they could be considered fortunate by the devout deschoolers) including the dropouts who have not benefited from schooling, functional literacy and family life planning programme can be designed to help them. In its essence the functional literacy and family life planning programme, now experimented in Northern provinces of Lampang and Prae, Thailand, is an attempt to combine literacy with useful knowledge and attitudes for the adults in a working-learning environment. New agricultural concepts and techniques, cooperative concepts and organization, simplified concepts of marketing, health and sanitation concepts and attitudes, environmental problems and the ways to better adjustment and, of course the family life planning concepts are all brought in to form one integrated series of lessons carefully programmed and branched to respond to the needs, felt or unfelt, of the people.

Currently, the pioneer project is entering its third year of operation. In 1971, the Adult Education Office of the Department of Elementary and Adult Education conducted a systematic evaluation of the pilot programme using the base line survey and comparing the pre-test with the post-test data collected at the end of the six

---

1/ Department of Elementary and Adult Education Local Reading Centre Project. Bangkok 1970, Mimeographed p. 5.

month programme. In summary, it was reported "a successful project which had enriched the adult learners with a wider knowledge, better literacy and numeracy skills and developed desirable attitudes among them." 1/

Like the Local Reading Center project, the Functional Literacy Project was integrated into the Third National Economic and Social Development Plan 1972-1976.

It will be interesting to follow up by the end of 1976 whether the programme as an alternative to formal schooling is a practical and truly useful one or not. Collected evidences, so far, are in favour of the success.

ALTERNATIVE SIX : Mobile Trade Training Programme

Besides providing the people with greater reading opportunities and life-situation oriented literacy, there could be another alternative to help people live a better life in terms of their economic needs. The Ministry of Education in Thailand, upon recognizing the great need in rural area to diversify the occupational skills of the people in parallel with the changing economy has been launching the mobile trade training programme in many provincial areas.

During the Second National Five Year Plan 1966-1971 this programme has proved to be one of the most successful educational efforts to bring to the rural people the vocational skills much needed to diversify the growing economy. The Mobile Trade Training Schools are designed to take teachers and equipment to the needed areas where adults and out-of-school youths can learn the basic skills required to enable them to secure jobs. Trade skills offered in each training cycle reflect the wishes of the trainees and job opportunities available and generally include one or all of the following; metal work, automechanics, electricity, radio & T.V. repair, welding, woodworking, cooking, sewing, tailoring, barbering, and hairdressing. Once the training of these trade skills in one location has reached the saturated point, the unit will move to other areas and start offering the training to other groups of people who would otherwise have little opportunity to develop marketable skills. It must be noticed that in some provinces in the Northeast the opportunity for training of this kind has been extended to serve hundreds of the terrorists who have surrendered.

1/ Department of Elementary and Adult Education Research and Evaluation Report Functional Literacy and Family Life Planning, Bangkok, Mimeographed, 1971, Summary of Findings, p. 7.

As recorded in the fiscal year 1970, there are 36 mobile units throughout the country. By 1972 the number increased to 54. Normally about 800 to 1,000 trainees a year are produced by one unit, and in 1970 a number of 28,000 persons received training in the total set up. By increasing the number of the mobile unit to 54, it is hoped that a number of 43,200 trainees will be produced each year.

Since its beginning in 1961, this programme has received an overwhelming interest and participation by the local people, and the employment rate after training has been observed as very high. Not a few trainees run their own private business successfully.

It is anticipated with confidence in Thailand that, as an alternative to formal training the programme will have its highly productive future and will be, thus, welcomed by the people for many years to come.

ALTERNATIVE SEVEN : Youth Leaders Training Programme

It was mentioned in the early part of the present report that in certain politically sensitive areas and in a great many villages, the youth-male or female were largely unemployed and idle. Some of them were even recruited by the insurgents for subversive activities. It has been indeed an utterly unhealthy situation. The following alternative, perhaps, could serve as a supplementary effort to divert these young potentials to a healthier and more productive channel.

The Youth Training Programme is nothing but a subsequent development in modified form of the Fundamental Education Project conceived and operated by the Thai government in cooperation with UNESCO known popularly through the 50's as TUFEC.

In its essence, youth leaders aging 15 to 20 are recruited from many villages. During their 3 month boarding at the center, they are trained intensively for new agricultural concepts and techniques as well as other trade skills of their choice with major emphasis in practice and group process. Citizenship and patriotism are also emphasized. On finishing the programme, new breeds of pig, poultry, and seeds are given to be cultivated in their home village while close rapport has been established between the trainees and the trainers at the center for future supervision. The programme around a year is composed of three shifts with 60 to 80 trainees each shift. It has been evaluated as having a very satisfactory outcome. The provincial governors and district officers in the neighboring

Northeastern provinces help recruit the youths while the Center under the administration of the Department of Elementary and Adult Education operates the programme.

The strength and the potential value of this alternative as esteemed by the authority concerned in Thailand lie in the fact that the youth leaders recruited are carefully selected as being the future leaders of the people in their respective villages. The kind of concepts, attitudes, and skills they bring back to their folks will have to some extent, a multiplyer effect. Speaking in terms of its conceptual validity, it can be counted as another promising alternative in the light of the political, social, and economic context of the rural area of South East Asia.

I have, thus far, proposed a few alternatives for further consideration by this distinguished gathering. Some of the alternatives are already put into action while the others are sheer ideas to be tested yet. In any case, they all have their peculiar limitations as well as potentials. Before any proposal can be put to any use it needs, therefore, a great deal more planning. However, one should be reminded of Philip H. Coombs' good advice. His words:

> "The clear lesson of past experience is that the planning of any non-formal educational activity (or of any formal one, for that matter) should not begin with a preconceived notion of what educational model will best serve the need. It should begin instead with a serious diagnosis of the particular context to discover what the need really is." 1/

1/ Philip H. Coombs, The Planning of Non-Formal Education: Some initial thoughts. SEAMEO, Working Paper coded NSEF/WP/25, Non-Formal Education Seminar, Mimeographed, p. 9.

THE INDIVIDUAL AS AN EDUCATIONAL INNOVATOR AND CHANGE AGENT[1]

Jerry Short
University of Virginia

What can one individual do to change the educational system of his country?

Graduates of INNOTECH, and graduates of other centers of educational innovation and technology, face a difficult problem when they return home. The problem is this: how can they, as individuals. bring about educational innovation in their own countries?

During their training programs, these educators have learned about radical alternatives to traditional schooling, worked on large-scale projects, studied large-scale systems, and mastered many specific skills. But after training, most of the graduates return to jobs where they feel they cannot apply what they have learned. The These educators do not return home to become Prime Ministers or Ministers of Education, or even department chiefs who might have the power to initiate a systems study or finance a major innovation. Instead, they return to middle level jobs as school principals, teachers, supervisors, college lecturers, and officers in Ministries of Education.

Their frustration is summed up in this statement made by one graduate:

> "I've learned a lot of important things, but I am going back to my old job and my boss is a traditionalist. He is not going to let me try anything new. I am going to be unhappy doing things in the old way when I have learned some better ways of doing them. But I cannot do anything about it. I will not have any opportunity to innovate."

Even when graduates are more optimistic about their future, their plans are likely to be vague. For example, another graduate, when asked about what he would do after training, could only give this general answer:

---

[1] A paper given at a seminar on Educational Technology held in Singapore, April 10-13, 1972. The seminar was sponsored by the Academy for Educational Development and the Southeast Asian Regional Center for Educational Innovation and Technology (INNOTECH).

"I'll try to do my best to help improve the standard of education in my country by using all the means in my power. It's very hard to say right now what I'll do later on."

What can one person do if he is the only innovator in a whole school district? What specific actions can one person perform by himself to bring about educational change? This article is about what he might do. It describes three objectives he could set for himself, and which he could use to evaluate his own progress as an innovator.

Objective 1. Become an important, well-known, useful expert on educational innovation and technology.

The newly graduated innovator should work to get other people to want his help. If he is successful in achieving this first objective, people in his country should say things like this about him:

"Before we go any further with this project, let's call him in. He has lots of information, good ideas, and he always thinks things can be done in better ways."

If the innovator overheard someone say this about him, he would know he had achieved the first objective.

But how does he become an important expert? The hardest thing about becoming an expert is getting started. Fortunately, he will have started already by participating in a special training program like the one at INNOTECH. And, when he returns home, people are going to ask him what he learned and what he did.

He should have two answers ready. One would be a formal talk prepared for groups. In it, he would define educational innovation and technology and show examples of how they can be used. He could prepare this while he was in training and use as many technological devices as possible: for example, behavioral objectives, illustrations, and tryouts. He could revise the talk until he could give it easily and naturally and until it achieved its desired effect.

The formal talk is one type of presentation the innovator should develop while he is in training. The other type is a conversational answer to a question a colleague might ask. For example:

Colleague: What did you do while you were in training?

Innovator: I got a lot of ideas about new approaches to education. I would like to use some of them. But first I have to identify our most important problems and needs. What do you think are our most important needs in education?

The innovator's answer attempts to do two things. First, it shows that the innovator has learned new concepts that he feels are important. Second, it shows that he is eager to listen to his colleague. By listening attentively, the innovator may learn a great deal, and he will convince his colleague that he is important. Probably, the best way to become an expert in someone else's eyes is to listen attentively to his ideas.

There are many other ways that the innovator can establish himself as an expert. Here are a few ideas:

— Translate or write articles about innovations in local languages.
— Volunteer to give a formal talk to any class or group that will listen.
— Search out people and listen to them as they talk about educational and national problems.
— Loan books, programs, and articles to interested people.
— Write reports for committees and work groups.

At this point in the presentation, the author stopped and asked the members of the audience to describe other ways that they could increase their own importance as educational experts in their own countries. They added these ideas:

— Volunteer to participate in in-service training programs to learn new ideas and share your own ideas.
— Meet periodically with other innovators, e.g., fellow graduates, board members, etc.
— Help others with their problems.
— Write papers on your own work and give them to others to read and make suggestions for improving them.
— Write articles analysing existing problems from a total systems point of view.
— Write a model lesson and publish it in an educational magazine.
— Read as much as possible about innovation and write about those innovations that it would be possible to implement in a particular country.

— Keep in touch with innovative centers and keep up-to-date on innovation and technology in education.
— Encourage others to attend courses on educational innovation and technology.
— Learn how to use and operate sophisticated educational media and equipment.
— Have the right questions to ask anyone who is advocating a particular reform or plan for education.

Let us now assume that by doing some of these things, the new innovator has achieved some importance and prestige as an expert. He must now begin to use his prestige to encourage innovation and change. This is not easy to do. Many people who have gained prestige and importance do not know how to use them to accomplish their goals. To do so, the innovator should establish a second objective for himself.

Objective 2. Encourage innovators; ignore those who do not want to change.

The new innovator should use his growing importance to encourage and reward those people who want to innovate and change. He can do this by paying attention to them, spending time with them, giving them ideas and support. At the same time, he should ignore those people who do not want to innovate and change. It is tempting to devote a lot of time to people who do not want to change by trying to convince them to change. But the innovator probably will not convince them by arguing with them, and he will find that he has no time left to help those people who want to change.

Some examples may make the second objective more explicit.

1. Which teacher should an innovator spend more time with?

   a. A poor teacher who resists his help.

   b. A good teacher who asks for help with a problem.

2. Which subordinate should the innovator spend more time with?

   a. One who says, "The new way will never work. The old way is better because we are all familiar with it."

   b. One who says, "I can see the advantage of the new way. Can you help me get started with it?"

In both examples, the innovator would make best use of his time working with the second person (b) and ignoring the first (a).

Objective 2 summarizes a general strategy for spreading successful innovation. The strategy was used last year in Singapore when an innovative primary curriculum was developed. The curriculum was made available on an optional basis, and teachers who wanted to use it were encouraged to do so. They were given training, assistance and encouragement. The other teachers who did not want to try the innovation were left alone. It appears that a successful innovation will spread quickly with little opposition when it is introduced in this way.

An authoritarian country can perhaps spread innovation in other ways. For example, Jerold L. Schuter reported in an article about China in Time (April 10, 1972, p.36) that when "asked what career aspirations they held for their sons, the Chinese invariably answered that the choice is up to the State. 'Whatever will serve the state will be good for my child.'" This innovation in career planning can be spread by authoritarian degree in China, but in other countries career planning for national growth can probably be introduced with more success by the other strategy. For example, the same goal could be achieved by introducing new additional opportunities in technical careers, and then encouraging and rewarding those students who choose the desired career paths,

The new innovator who has successfully accomplished Objectives 1 and 2 must still be aware of the danger of talking about innovation instead of doing it. The innovator, if he is to remain important, must produce something. Unfortunately, he will probably find it much easier to "talk" than to "do". He will meet many pessimists in education who will be anxious to discuss the impossibility of change. He should avoid these people or he may start imitating them. Instead he should choose action people as his models and associates. Working with them will challenge him to take action too. Thus, the third objective:

Objective 3. Take action; don't just talk.

Two examples will illustrate this objective.

1. Which is the better person for an innovator to work with?

A. who says "We cannot begin until we analyze the problem for a year and consider the question of whether it is possible to write behavioral objectives for family planning."	B. who says "Let's visit the staff of the Family Planning Board today and see if we can draft behavioral objectives for family planning."

The innovator should take a positive approach towards those who try to innovate, even when they do not succeed. The innovator cannot expect perfect projects and products so he should encourage anyone who makes an attempt to change, even if the attempt is quite small and apparently insignificant. If the change is an improvement, no matter how small, the innovator should encourage it. Some more examples may illustrate this technique.

1. The members of a project staff have prepared some educational objectives. The innovator feels the objectives are better than the old ones, but he knows they are not as good as they could be. What should he say?

   a. "Your objectives need much more work. They are not stated in clear, behavioral terms. They are too vague. You have to be specific when you write objectives."

   b. "These objectives are a great improvement over the old ones because they are clearer and more specific. What do you plan to do with them next? Can I help?"

2. The innovator has been called in to evaluate a school. He finds that the teachers are using a new approach, but that they have no way of evaluating its success or failure. What should he say?

   a. "Your innovation is useless because you have no way to measure its effect. Unless you have an evaluation plan, you cannot tell if you are succeeding or failing."

   b. "I am very pleased to see how well all the teachers are using the new approach. It is unusual to find everyone so enthusiastic about trying something new. Can I help you develop some ways of evaluating the effectiveness of these new approaches?"

In the first answers (a), the innovator criticizes the obvious faults he has detected. In the second answers (b), he encourages those who have tried to change, and attempts to help them improve. It seems likely that the second approach will be more successful in maintaining interest in innovation, encouraging those who are trying to change, and making ideas for improving the innovation process more acceptable.

2. Which person is the better innovator?

A. who argues with his colleagues about the best version of the systems approach to use in planning and implementing innovation.	B. who prepares a game called "Our Spaceship Earth" to teach ecological concepts and evaluates the fame with a group of students.

In both examples, Person B seems to be accomplishing the third objective by taking action rather than just talking.

One difficulty with the advice to "take action" is that the problems to act on are often overwhelming. How can an individual innovator take action to solve the large important problems that are critical in most educational systems? He cannot. But he can work with a part of a problem and design an individual action project of his own to solve part of the problem. Here are some possibilities.

Individual Action Projects

New curriculum areas, such as population control, sex education, ecology, creative thinking, tutoring, career planning, moral development, managing money, etc., are good areas in which an innovator can create models to demonstrate applications of educational technology. For example, could an innovator sell a local newspaper on publishing a children's column with materials for readers to tutor non-readers? Or an educational comic strip? Or a column written by students?* Could he sell a local radio or TV station on the idea of short messages for students, each teaching them some simple but

* An example was published in a Singapore newspaper during the seminar. In a letter to the editor of the Singapore Straits Times a student wrote: "I am a Secondary Four student and will be taking my Cambridge examination this year. Our foundation for mathematics is poor. Recently our mathematics teacher got into the habit of doing problems on the board without explanation and expected us to copy everything down into our exercise book. Although she gave us homework, she never checks our work. This means we will never know our mistakes. We have already used more than half of our exercise books, but haven't even checked a page of it. Although we know that she has to go for her lectures at the teachers' training college, but this doesn't mean that she can neglect her students." Probably several math teachers in Singapore revised their teaching methods after reading the letter!

important objectives? Could he prepare a short model lesson and show people how it works? Could the innovator prepare a simulation game, a role playing case, unit of programmed instruction, a film, a tape? Could he do something like an engineer in the U.S. did in his spare time when he developed a set of environmental projects for primary students to teach them the importance and fun of conserving the environment? Could the innovator write a test and give it to some students to find out if they are learning to think scientifically and rationally about their world? Could he get one teacher to try an organizational innovation in her classroom such as having students tutor other students in each-one-teach-one style?

At this point in the talk, the author stopped again and asked the audience to describe other individual action projects which they might undertake. These projects were mentioned:

-- Observe the behavior of children in different situations in the street to find out what they are learning and how we could take more advantage of natural learning situations.
-- Form an action group to revise our college syllabus, write objectives, and evaluate our work.
-- Tryout programs with my own children during my spare time. The next step, if the programs succeed, is to go to some school under my supervision and get them to try them.
-- Apply a systems approach to planning my own work.
-- Work out the costs and benefits of a plan to solve the problem of crowded schools by using alternate days of schools, e.g., half the students might attend school on Monday-Wednesday-Friday and the other half on Tuesday-Thursday-Saturday.
-- Conduct workshops in programmed instruction, systems approach, and writing behavioral objectives.
-- Teach a demonstration lesson before my colleagues in which I apply the systems approach by using objectives, pretests, and posttests.
-- Design a small project to discover what secondary students find most difficult to accomplish: problem solving, studying, listening, personal adjustment, etc.
-- Conduct studies to find ways of improving my own lectures and teaching.
-- Construct quiz sessions about various subject matters for TV or radio for groups of school children.
-- Prepare a restatement of instructional objectives now in use so that they are presented in measurable, life-use terms.
-- Use critical incidents from teachers as a resource for preparing role playing case studies for teacher training.

-- Conduct a simulation game with associates to help them apply a systems approach to a particular problem they are trying to solve.
-- Develop tests to identify specific weaknesses students have in some of my country's schools.
-- Hold week-end discussions with teachers within my province to get new ideas about innovations which they have tried.
-- Create a set of psychological experiments to teach principles of behavior to grade school students.

Summary

Three objectives for individual innovators have been described. These are the objectives that an individual innovator could work toward regardless of his job assignment.

1. Become a useful expert in educational innovation and technology.

2. Encourage innovators; ignore others who do not want to change.

3. Take action by starting your own individual action project.

There are many other objectives that an innovator could set as goals for himself. But these three alone should assure his success.

COMMUNITY SCHOOL AS AN APPROACH TO EFFECTIVE AND ECONOMIC DELIVERY OF MASS PRIMARY EDUCATION

by Mr. Nhoeng Nhan
Director, Primary Education
Ministry of National Education
Phnom Penh, KHMER REPUBLIC

INTRODUCTION

I know what I am going to say contains little or nothing new.

Community school is an old concept spread out by UNESCO since the end of the world war II. Many countries in Latin America, in Africa, in Asia had put it into application according to their respective conditions of life with more or less conviction. In Asia, all the countries are also influenced of this concept. The first country who got more experiences in community school was Philippines with his barrio schools and his Bayambang training centre.

In 1963, the UNESCO institute for Education in Hamburg had organized an international conference on community school.

In 1968, the same institute convened 23 experts, specialists in Education in Africa, Asia, Europe, Latin America, and U.S.A. to examine the problems concerning the structure and functioning of Community schools in developing countries ...

All of them were concerned, though in very various capacities, with education in the so called developing countries of the world, and all correspondingly worried by the ever-widening gap between the promises held out by educators and the performance of the system which they have created and now administer. They are convinced that in many contexts a school should be more than a place to which children go for instruction during certain hours of the day, that it should be so involved with the life of the community from which its children come each morning and to which they return each night, that nothing which is of interest or value to the community should be regarded as alien to the school's function and that reform of individual schools or better still of educational systems to take account of this view would prove more rewarding than pursuit of the objectives commonly set out by the educational planners.

Before tackling again the concept of community school, it is worth to go over some constraints and deficiencies on present schools and educational systems.

EDUCATIONAL ASPECTS IN ASIA

In the last decade following the end of the world war II came a new era in the history of Asia. The acquisition of independence has answered to the political aspirations of people and implied almost simultaneously to the national governments two heavy tasks:

- Consolidating political independences;
- Putting an end to the social and economic stagnation which characterized the preceding period.

The revolution caused by this rising hope was expressed in terms of great pressure tending to reach the social and economic level of the developed countries and the planning was adopted as a political tool of development.

With this stimulus, the economic aspects of those countries had got an average increase of 4.2% about 4 times more than during half the preceding century.

Substantial progress was equally accomplished in the field of health, of rural and community development and social welfare. The development in the field of education is more evident. The school access is widely open. Moveover, the education becomes an important factor of economic progress and a mean which instigates social changes. However this education needs have not only the economic character. The countries of the region are deeply attached to the conservation and to the enrichment of moral, esthetic, cultural values on which their way of life was founded during centuries. They believe that education can play the role of catalyzer of the cultural renascence which conciliates the traditional values and the necessity of economic, technical and social changes. It contributes very strongly to the strenghtening of national unity and social cohesion.

According to the statistics of UNESCO, the region is characterized essentially by the huge increase of population. During the 1950's the rate of total population increase passes from 10% the rate of the ten previous years to almost 20% fort 1950 - 60. In 1960, the population of the countries of the region amounted to 824 millions and it will reach 1.370 millions in 1980. With the projection of the rate of population increase, it will be doubled during the period 1960 - 2000.

This rapid increase is due to the substantial reduction of mortality rate while the birth rate is always rising.

The rising of the birth rate directly affects the population structure. In Asia, almost 42% are less than 15 years old, instead of 32% in North America, and 26% in Europe.

The effort to achieve in the field of education is determined by the dimension of population of school age. In 1960, the age group from 6 to 12 years old represented 18% of the total population, from 13 to 17 years old 10%, from 18 to 21 years old 7%. So the population from 6 to 21 years constituted 35% of the total, about 288 millions in 1960 to about 514 millions in 1980. With these population of school age (35% of the total population), the education system of the Asian countries has to support a heavier burden than the developed untries where the percentage of school age oppulation is relatively small. The rate of population growth is about 2.5%. The development and expansion of educational facilities must be sufficient enough in order to receive all the children of school age in the same time to safeguard those who have no opportunities to go to school.

The slowness of school progress and the unequal repartition during previous decades are reflected in the present instruction level of the population of the region. The number of illiterates in Asia is over 250 million. The illiteracy rate of among 16 countries gathering about 88% of the total population of the region are: 80% and more during 1962-63 in five countries representing 18% of the total population; 60 to 80% in two countries (almost 53% of the total population); 40 to 50% in 4 countries (5% of the total); 20 to 40% in five countries (11% of the total).

The illiteracy is more frequent for the women. In the whole, 54% of men and 79% of women are illiterates.

The illiteracy among the active population (25 to 54 years old) continues to be a great problem.

In 5 countries the rates of illiteracy among the active population are: 70% for the men and more than 90% for the women.

In 2 countries, 60% for the men and 85% for the women.

In other countries, 20 to 40% for the men and 40 to 70% for the women.

In all the countries of the region which had put an important part of their budget in education, 10 to 15% of the population finished their primary and only 4 to 6% their secondary education.

Moveover, the result of the education is still rather quantitative than qualitative.

CASES AGAINST SCHOOLS AND EDUCATIONAL SYSTEMS

Besides the aspects above quoted, Everett Reimer stated in his book "School is dead" as follows:

"Most of the children of world are not in school. Most of those who enter drop out after a very few years. Most of those who succeed in school still become drop out at a higher level. UNESCO data show that only in a small minority of nations do even half the children complete the first six grades.

No child, however, fails to learn from school. Those who never get in learn that the good things of life are not for them. Those who drop out early learn that they do not deserve the good things of life. The later dropouts learn that the system can be beaten, but not by them. All of them learn that school is the path to secular salvation and resolve that their children shall climb higher on the ladder than they did.

For most members of the present generation, this hope, that their children will benefit more from school than they, is doomed to disappointment. Schools are also expensive for this hope to be realized. For many, it may appear to be realized but the appearance will be a delusion, fostered by inflationary debasement of the academic currency. More colleges and high school degrees will be granted but they will mean less both in terms of amount and kind of learning and in terms of job qualification and real income.

In all countries, school costs are rising faster than enrolments and national income. No country in the world can afford the education its people want in the form of schools, except a few rich nations.

Population is growing so much faster than the rate at which real educational opportunities can be expanded by means of schools. On the other hand, people will not voluntarily curtail birth rates until they have a minimum not only of education but also of the social mobility which implies. While children who never go to school are most deprived economically and politically, they probably suffer the least pain. Many communities in Asia, Africa, Latin America, have no schools or have them only for the children of the elite. The parents and grandparents of those communities have never known schools as places they expected

their children to attend. For them, going to school means leaving the traditional life, moving to a different place, laying aside physical burdens for the work of the tongue and the mind, exchanging traditional food, clothing and customs for those of the large town or distant city. Parents often prefer to keep the child in the traditional community, bearing the familial burdens, confined to the enjoyments which primitive means can provide. They know, however, that this implies continuing domination by the others, continuing dependence in time of hunger, war and sickness increasing distance from those who enjoy wealth, power and respect.

When the choice becomes real, most unschooled parents all over the world decide to send their children to school.

Once at school, most of those children dropped out before they learned to read. They did learn, however, how unsuited they were to school, how poor their clothing was, how bad their manners, how stupid they were in comparison with those who went on to higher grades. A little schooling can induce a lot of dissatisfaction."

Schools are for most people what Everett Reimer calls "institutional props for privilege". The most urgent priority, he argues, is for a consideration of alternatives in education, alternatives content, organization and finance. Above all, we urgently need alternative views of education itself, its nature and possible functions in the society of the future.

Dr. Ivan D. Illich, in his bold and provocative book entitled "Deschooling Society" calls for a cultural revolution urging us to a radical examination of the social myths and institutions by which our lives are increasingly organized in an industrialized, mechanistic and progressively less human world. Illich presents a startling view of schooling; schooling (as opposed to education) has become our modern dogma, a sacred cow which all must worship, serve and submit to, yet little true nourishment is derived. Schools have failed our individual needs, supporting fallacious notions of progress and development that follow from the belief that ever increasing production, consumption and profit are proper yard sticks for measuring the quality of human life.

Illich's suggestions for reform are radical and exciting to speculate about - and he feels that the measures he suggests in the book are necessary to turn civilization from its headlong rush toward the violence which frustrated expectations will certainly unleash, so long as the

school myth is allowed to persist.

Philip H. Coombs, in his book "The World Educational Crisis - A systems Analysis" stated that "the nature of this crisis is suggested by the words change, adaptation and disparity". Since 1945, all countries have undergone fantastically swift environmental change, brought about by a number of concurrent world wide revolution in science and technology, in economic and political affairs, in demographic and social structures. Education systems have also grown and changed more rapidly than ever before. But they have adapted all too slowly to the faster pace of events on the move all around them. The consequent disparity - taking many forms - between educational systems and their environments is the essence of the world-wide crisic in education.

There are assorted specific causes of this disparity but four in particular stand out. First is the sharp increase in popular aspirations for education, which had laid siege to existing schools and universities. Second is the acute sarcity of resources, which has constrained educational systems from responding more fully to new demands. Third is the inherent inertia of educational systems, which has caused them to respond too sluggishly in adapting their internal affairs to new external necessities, even when resources have been the main obstacle to adaptation. Fourth is the inertia of societies themselves - the heavy weight of traditional attitudes, religious customs, prestiges, and incentive patterns and institutional structures - which has blocked them from making the optimum use of education and of educated manpower to foster national development.

If the crisis is to be overcome there must obviously be substantial mutual adjustment and adaptation by both Education and Society. If these are not forth coming, the growing disparity between education and society will inevitably crack the frame of educational systems, and in some cases, the frame of their respective societies. This is inevitable because as the educational needs of national development continues to grow and change and as pressures on the demand side of the educational systems continue to build, it will not be possible to meet the situation by increasing at will the resources made available to the systems.

To do their part in meeting the crisis, educational systems will need help from every sector of domestic life and in many cases, much more money. But money will be harder to get since education's share of national incomes and budgets has already reached a point that restricts

the possibilities for adding on further increments. They will need the real resources that money buys. They will especially need a fuller share of the nation's best manpower, not merely to carry on the present work of education, but to raise its quality, efficiency and productivity. They will need building equipment and more and better learning materials. In many places, they will need food for hungry pupils, so that they will be in a condition to learn.

Above all, they will need what money alone cannot buy - ideas and courage, determination and a new will for self-appraisal reinforced by a will for adventure and change.

EXPERIENCES IN COMMUNITY SCHOOL IN KHMER REPUBLIC

Since 1955, UNESCO had also brought the concept of Community School to Khmer Republic. Here were the main points of the projects made by Mr. J.J.A. Frans. UNESCO's expert at that time.

WHAT A KHMER RURAL COMMUNITY SCHOOL MUST BE

AIMS :

1. The Community School aims at improving not only the pupil's life when he becomes adult but also the life of all human beings in the rural community to which he belongs. The school must serve the life of the children, of the teenagers and of all adults of the communities.

2. The community school makes best citizens, best villagers with physical, intellectual and moral qualities, e.g. they can understand well those who are different from them and those who don't think like them. They are competent for what they do - they are parents who understand well their children, and the role of the school; they are citizens who know and understand the other groups, races, religions and nations.

3. The community school must directly, practically and actively participate in the rising of the level of rural life, namely the material, intellectual and cultural aspects. It works for the diminution of disease, for a more hygienic life, for the improvement of agricultural techniques, and local handicraft, for the diminution of prejudicial superstition, of the avoidable accidents, for the lack of understanding and conflicts between individual, families, groups, races and nations.

4. The community school can offer a realistic teaching, e.g. really useful for the immediate improvement of life and work conditions of the Khmer community unless it is not confined within the 4 walls.

5. Books, pamplets, handbooks and other teaching aids are certainly important but not sufficient.

6. The community school should bring the young pupils who are going to leave it to know, understand the notions and to acquire the aptitudes which are essential for the immediate improvement of human life in the community where the pupil lives, and in the community where he is going to live.

7. At the community school, the pupils must indeed learn to solve the problems of real life of the Khmer rural community.

8. The community school must open the door on the rural community life by visits, fieldstudy, inquiry, work experiences, and useful activities programme.

9. Fields, forests, water streams, mountains, workshops, factories, museum, sessions, and meetings should become with the books and didactic board, the true teaching material and true fields of study of the community school.

10. In the rural community school, the Khmer rural youth must as freely and rightly as possible be able to study, to work, to play without compulsion. A school garden, some pets, a model kitchen, etc. will be among the out of school activities in the near future.

11. For the Khmer rural community school must become little by little a meeting centre for the adults, where the villagers come and listen to a talk share in the discussion, ask questions to the visitors, prepare an activity or a group work for the community; where the parents come and discuss their problems and difficulties with the teachers - where the youngsters come and play a match party or organize a festival or dances - where the farmers come and discuss the new mthods of farming or the advantages and inconveniences of new prefected tools (plough, harrow, etc...); where the craftmen come and compare the value of their masterpiece or their handicraft techniques or come and demonstrate their skill about a new handicraft process or about a perfected tool.

ADAPTATION AND INTERPRETATION OF ACTUAL SCHOOL PROGRAM IN THE SENSE OF THE PARTICIPATION OF RURAL SCHOOL TO THE LIFE OF THE KHMER RURAL COMMUNITY

12. An English poet said that the true study of humanity is the study of human life. So the community school rejects little by little progressively but resolutely, the traditional cutting out of the program of 3/4, 1/2 or 1/4 of an hour of isolated lessons.

13. The community school gathers its subjects of lesson around the study and interest center which belong to the real life in the present, to the future of the rural community and not in following those invented by a handbooks' editor financially interested to the utilization of his handbooks.

14. The community school concentrates its subjects of study around the great and true domains of activities and problems of practical life of

rural community members, as well as those activities and problems in the present, in the past, and in the future.

15. The community school makes great effort to consider as study center the fundamental needs of men and their communities, their evolution. their problems that involve their satisfaction, the possibilities and means to reach them.

16. It makes a great effort to insert into the programme, not only the indispenable notions for the success in the different examinations, but also the study of domain of activities and the problems of real human life in the rural community here and there, in the present, in the past. and in the future.

17. The community school seeks to use the natural sphere in which it is, and where the pupils live, the school and the surrounding school, the commercial and idea exchange between diverse communities, the material and intellectual differences and adaptation between individual and groups, the need to assure convenient life, to protect against disease, the natural forces, the intemperies, the heat, the cold, the water, the fire, the human forces, the need to improve his existence, etc... To teach in the occasion of these subjects study in school, out of school, all the indispensable notions.

18. In the community school, the study of pupils becomes experimental, realistic, vital and full of learning and meaning for the child himself.

HOW TO MAKE RURAL SCHOOL TO BECOME AN ORGANIZATION BELONGING TO THE ENTIRE RURAL COMMUNITY

19. The community school seeks to bring the parents, the mothers, the farmers, the craftmen, the youth in one word, all the village community members to be interested and take part in the school and the out of school activities.

20. It seeks finally to bring the people outside of the edcuation to help and cooperate with the educator in the school activities and to bring the pupils to improve the community, to contribute to the school development as well as to the life and work conditions of pupils and teachers.

MAKE A RURAL SCHOOL TO BECOME AN ENTERPRISE WORKING CONSTANTLY FOR THE IMPROVEMENT OF KHMER RURAL COMMUNITY

21. The community school works for the cooperation, coordination, of the efforts of all social and professional groups in the Khmer rural community which try to improve it.

It must try to stimulate all the members and all the groups to share its activities. In turn, it also interests them according to its possibility so that the activities of those groups involve all of them for the well - being of the Khmer rural community.

22. It examines and finally seeks with the pupil's help to transform the school to become a living laboratory where the pupil studies and constanlty experiments the aim and the methods of democracy and where he acquires knowledge and aptitudes which enable him to assume spontaneously and voluntarily with faith and enthusiasm according to democratic progress his part of work and responsibility in the local, national, international community affairs to which the youth belongs.

FUNDEMENTAL PRINCIPLE

The social function of school is not and cannot be to prepare the pupil so that after school he can assure selfishly by all manner of means within reach the best and possible life for his own profit and for that of his family in the prejudice of the third and of the community where he lives.

The school function is and ought rather to prepare the pupil so that he can assure a best life in observing strict honesty and moral rule in regard to himself and to the third as well as to all local, national and international community members. He gets towards them imminent debts of social and human solidarity.

This fundamental principle involves the following programme:

1. Study the contribution that the present school can provide, activities leisure and recreations, for the present Khmer rural community.

2. Take in each province one or several schools located in villages of middle size far enough from the town or from the highway as pilot schools.

3. Elaborate with the staff and if possible with the school pupils an

action programme to be realized by the school and pupils in order to improve and embellish the communities around the school.

4. Study how the pupils can make the life of the Khmer rural community more easy, more attractive, and more productive by avoiding some acts, by achieving some tasks and by regularly sharing some work (familial garden, etc...)

5. Study what the present rural school can contribute for the improvement of Khmer Community by the creation of school garden, by the organization of periodic day of village cleaning, by the organization of small entertainment, by establishing friendly, frequent and regular relation with parents by the organization of games, etc...

6. Study how to make use of rural community as a field of study for the present rural school.

7. Study how to make use of rural community as a field of practice where the school or pupil can provide services to the communities or villages.

8. Elaborate a plan of study and work and adapt the interpretation of present programme in order to take the present community as a field of study.

9. Elaborate a service programme to be given by the school and individually by the pupils to the community.

10. Study the possibility to elaborate a programme of domestic work.

11. See how one can put emphasis on the interpretation of the present school programme on the orientation towards agriculture.

12. See how one can develop the study of some practical notion of commerce.

13. Elaborate an improvement plan of the achievement of the present rural school.

14. Elaborate also practical improvement plan about the setting and the material of the present rural school.

15. Improve the teaching methods of the present rural school.

16. Elaborate a school programme with respect to the needs of the pupil as well as to those of the present rural community.

17. Elaborate with the pupil an extra currucula programme, for example game, song, music, theatre, useful handwork, meeting, dance, small journal publication.

18. Study how the extra curricula programme can contribute to educate the community members

- by offering them the occasion to share the responsibilities
- by participating in the community affairs
- by encouraging contacts with chiefs, natural leaders and the groups...

19. Elaborate an educative programme health that the present rural school can realize in the community to reduce contagious disease, to promote a healthy life for the villagers to encourage them to observe practical rural hygiene.

20. Study how one can render more practical, more progressive, and more demonstrative the present programme of agriculture.

21. Elaborate a more practical programme of the carefulness rules in the street.

22. Study how to bring the pupil to study, the whole aspect of the village, for example

Our village:

- the landscape around the village
- the animals
- the trees
- the water
- the relief
- the inhabitants and their groups.
- the craftsmen
- the commerce and the shops
- means of communication, roads and lanes
- markets
- tradition, superstition, moral and customs
- the pupil establishes a plan of his house, village, community, district, provinces, country, neighboring countries.

This concept launched by J.J.A. Frans, UNESCO's expert had gained the opinions of the eminent national educationalists.

The idea was then put into practice with more or less adequate preparation of the staff.

As a result, we realised to introduce:

- workshop, agriculture, animal raising, home economics into 39 schools;
- workshop, agriculture, home economics into 96 schools;
- workshop, agriculture, into 175 schools;
- workshop into 193 schools;
- medical box into 102 schools;
- infirmary into 71 schools.

Besides, we had 14 model schools, and 126 experimental schools.

Apart from the study and the practical activities within the schools, the teachers and pupils undertook the outside activities in the communities such as individual projects in domestic activity, participating in the village road, in the harvest and rice planting of the community members.

One cannot forget the activities of the community members towards schools. The community members around each school are associated in committee, in cooperation with school's teachers and religious chief-monk to develop the school's facilities and to help their functioning.

In evaluating the results, it is found that the concept was launched without enough preparation from the top-official to the school teachers. They did not clearly understand the nature and scope of community school, and had no faith in it. Of course, there had been so useful change even though. The school teachers organized stereotyped practical activities and out-of-school activities in order to please their supervisors. There is still disparity between school and society. The schools continue to produce maladjusted pupils to the real community. Most of the parents who seem to understand the necessity of education, by providing funds for buildings, equipments and other facilities, send their children to school with the hope that they will get white-collar jobs after leaving school. Moreover those who drop out use very little of their knowledge gained from school in their daily life. They prefer adopting traditional ways and manners of their ancestors without seeking any further improvement.

COMMUNITY SCHOOL AS AN APPROACH TO EFFECTIVE AND ECONOMIC DELIVERY OF MASS PRIMARY EDUCATION

Nowadays, all countries in the world and their political leaders to begin with powerful countries, are talking about peace, economic development, production, productivity, social justice, social welfare, international, and regional cooperation for the purpose of betterment. The developing countries whether they are willing or not are requested to join the effort and to go along. All of these imply the changing of peoples thinking, attitudes and behaviors which is the main task of the government, more specially the ministry of education.

Despite the arguments against schools and its irrelevancies, the schools remain always available institutions for education especially in the developing countries.

In Khmer Republic, the budget allocated for education already reached the point. Among 100 pupils enrolled in primary school, only 0.3% can go up to the higher education (UNESCO date in 1963). So it is openly proved that the governments' efforts serve the people minority. On the other hand, the great majority of pupils who drop out rarely use their knowledge acquired from the school in their daily life. Generally, they adopt traditional ways of their parents.

There are indeed gaps between the actual education system inherited from the colonial ruler and the daily community life.

There are some noticeable deficiencies:

1. The teaching techniques are out of date
2. The content of curriculum sometimes hasn't any connection with the real life.
3. The instructions provided to pupils seem to be good enough but the people's intellectual level is too low to accept them. The pupils who got them had no opportunity to use them because of this social environment.
4. The teachers themselves misunderstand the meaning of education in its broad sense.

   They have fixed ideas that education should mainly be based on the amount of instructions given in the formal classroom.

5. The school takes care only of the pupils, pays less attention to the life of community members and by the way pulls the pupils out of their social environment.

6. The practical activities program introduced in school is limited to please the high official.

Everybody knows that in this changing world, the manpower is the first important thing. Illiterate or uneducated people are unable to accept progress and innovation. In order to promote development and to be able to have existence, the developing countries must educate their people.

We are aware that they have already made emphasis on education, however this emphasis is not yet fully exploited. They have a great number of staff. The question now is how to use these human resources. In general, primary education has its schools and teachers in all parts of every country. How to change the character of the primary school and to turn the school teachers into a sort of change agents for the surrounding communities is therefore one of the problems of the Ministries of Education in half the world. Hence the great interest everywhere in curriculum reform, renewal, the vigorous and often internationally supported programmes aiming to improve the teaching of particular subjects notably mathematics and physical science. These efforts are important and their success is not to be decried, but their effect on the fundamental problem is and is likely to remain marginal.

Basically, our need is to find a fresh answer to the question "What kind of education will produce citizens with the knowledge, skills and above all the attitudes on which their happiness and their country's future prosperity wil so greatly depend? Traditional education has not certainly provided the answer. Rather it has produced a generation of young people estranged from the adults in their communities including very often their own parents. We believe that the answer which is based on sound educational principles is also the answer which will come nearest to meeting the needs of national development, and will also reduce, if it can not eliminate, much of the frustration and social disintegration which our effort over the past years have produced. The principles are simple enough and in theory universally accepted; they are even put into practice in some of the countries which think of themselves as developed. They are, briefly, that in the process of learning a child should so far as is possible progress from the known

to the unknown, that his growing skills, mental and physical, are most effectively encouraged when he can see their potential and their immediate application and that his capacity for rational thought is best stimulated by getting him to exercise his young mind on subjects which have reality for him; in other words, that a child is best educated in and in the context of the community to which he belongs. If this makes educational sense, it also makes sense in the light of the development programmes to which such a high proportion of national resources are currently devoted. Many countries are, at any rate in theory, committed to comprehensive schemes for rural and urban betterment in which all the government agencies concerned, agriculture, health, cooperatives, labour, community development, education are meant to be working together as one. Admittedly practice is still lagging far behind precept, but the gap is closing and it would be tragic if education failed to play its part in the team effort by continuing to teach the irrelevant and so making young people unfit to contribute as they could to national and local prosperity.

But there is more to a "Community School" then a set of subject syllabuses which take account of local conditions. For if schools have an up-to-date programme and the school teacher uses the best techniques to educate the pupils, the last who pass a great deal of time with their parents in the community cannot apply their school knowledge when their parents environment are too backwardand unable to accept them. It is sometimes true that school can have its influences on the community members through pupils. But to be sure that what they teach is efficient, school teachers should gain confidence of the community members and have some special techniques that school cannot provide. It is necessary to have close contact with the communities. In fact, schools should build a kind of bridge and create an atmosphere of reciprocity between itself and communities. A "Community school" is in the fullest possible sense, the school of the community not just the school which stands in the community. It is a school in which children are taught and well taught, during what are normally regarded as "School hours" and also the institution which offers to adolescents and adults the education, training and even recreation for which they are asking or for which they can so easily be stimulated to ask.

A "Community School" attended by, supported by, and above all understood by the entire community, junvenile and adult alike, and affording the

opportunity of a better life in a setting which is natural for all, offers at least one means of bringing about education revolution which is imperatively needed unless we are content to watch the gap between the developed and the developing countries grow wider rather than narrower, to ignore the growing gap between generations in the developing countries and to regard as a mirage the development in the fullest sense of the term to which we fondly believe, education could be bad. The developing countries are not defeated yet, but they soon will be, unless something can be done pretty quickly to harness education to its urgent task. The community school offers one line of attach.

One should also notice that in the developing countries, the communities have domestic problems in the field of health, hygiene, agriculture and others which need no specialized agencies to solve them, but only the unselfish service of the school teachers in place can largely help the communities' members to overcome them.

Within this frame of reference, the community school should be considered in three aspects:

1. as an educational institution, to be judged on purely educational criteria;
2. as an instrument of "development", local and national;
3. as a centre for the education and training of those members of the community who are outside the normal school age.

The first consideration involves recognition of the fact that there are two quite distinct communities to which the school has a relationship, the local community which it directly serves and the national community represented by a wide-spread often complex administration. Basically, both will gain if our major premise is true that schooling based in large measure on what can be seen as relevant and meaningful is essentially better and more productive than schooling which deals with what is strange and implicable. This does not mean that a child brought up in a bush school should not be introduced to subjects and ideas drawn from the wider sources than the purely local environment or that a city child should not acquire knowledge of ways of life different from those which he sees around him everyday. This would lead to two distinct and separate groups of citizens. It does mean that if understanding is to replace much of the rote learning which is admitted to be one of the

curses of what passes for education for millions of children today, the first steps towards literacy and numeracy should be taken in a familiar context, and that what is unfamiliar should be introduced when children are ready for it.

However, objections will be raised by both national and local communities to the idea that schooling should begin with the known and familiar and may not for many children, proceed very far beyond it. Nationally it will be argued that a child in the remote community will be inevitably barred from developing his full potential unless from as early an age as possible, he is subjected to the same educational treatment as a similar youngster in the developed community. This argument is rejected as out-of-hand because good education is in any circumstances and for any child better than bad education; education suitable for the developed area is often totally unsuitable for the remote area. Education for the remote area based on developed area needs will probably be bad education.

One can also argue that at any rate up to the age of thirteen or fourteen, the mental attitude of a child, his ability to think logically and the retention and development of his natural curiosity are more important than his acquistion of a limited store of facts often ill-assimilated. Community school can offer the habit of constant observation and the capacity for honest deduction from carefully observed data. But it required however.special arrangements to ensure that in any process of selection for admission to higher level of education, pupils from it will not be penalised because their upbringing has been unorthodox. It may even prove desirable to exempt them from the kind of centralised nation-wide type of examination.

A second consequence of almost equal importance is that since communities vary greatly, so will curriculum of community schools have to vary. It will be essential for the provincial or district representative of the central Ministry and for the local inspector or supervisor of schools to have a clear and sympathetic understanding of the concept and purpose of any community schools for which they are responsible and to see to it that no such school is hamstrung by rigid enforcement of rules and regulations which may prove to be unsuited to it. The sort of issues on which firm local agreement will have to be reached may be pretty comprehensive, ranging from subject content and teaching method to hours of attendance to suit local conditions and dates of school holidays to accord with seasonal and occupational variations.

The last objection to community school which is almost certain to be voiced, initially at any rate, by parents. The understanding of the parents is particularly important because of the effect which the school will have through the children on their parents, their homes and their whole community.

We are constantly told that education is one of the most effective instruments for furthering change, change in the habits and practices, the attitudes and beliefs of communities large and small. But this change should be carefully studied and planned.

In order to fulfil the change, the school principal, however. and as many of his staff as possible, should know what the needs for training in agriculture, health, building, book-keeping .... are, know and be prepared to cooperate closely with the other agencies through which the needs can be met, and in many cases invite those agencies to use the school as the base for their activities. At the same time, the school has to involve the community members, the parents in the support of a school. by making them participants with the children, in the education and training which the school seeks to provide and to get them to realize through personal experience that the school can be the source or at any rate the channel for new knowledge, ideas and skills which can lead to obvious and speedy improvement in the quality of life enjoyed by all who come within the school's sphere of influence.

In practice. a community school must have a curriculum which contains a common body for general education and the programme of regional activities. This curriculum should be achieved with appropriate methodology. It implies to the school teachers the recognition of the community's interest in the educational objectives and techniques of the school, the participation of the community in activities, the full collaboration of community and school in community activities.

So the school teachers not only have to teach their pupils with an up-to-date method, but also have to make the school and its activities good examples for the community members. Some practical activities such as home economics, agriculture, health, cooperatives,....etc..... should aim at educating pupils and be opened to the community's members who ask for it. In the same way the community's members who have some special techniques in certain fields are invited to contribute to the school's programme for the benefit of the pupils and teachers.

In the Khmer Republic, the success of this new approach of community schools remains on the following conditions:

1. the comprehension and the faith of the high-ranked officials about the community school as a solution to the educational problem.
2. the selection of a number of schools as pilot projects and to train supervisors, and the school teachers responsible for the pilot community schools.
3. the careful setting up of the curriculum of community schools.
4. the comprehension and the support of the idea to all the teaching members at every level.
5. the comprehension and the collaboration of the other government agencies.
6. the need of the service of community school expert.

HOW TO APPROACH THE PROBLEM OF DEVELOPING AN EFFECTIVE AND ECONOMICAL DELIVERY SYSTEM FOR PRIMARY EDUCATION

by Mr. Hussin
Director, Institute of Development Information
Office of Educational Development
Jakarta, INDONESIA.

I. The Problem

Indonesia is confronted, as is the case of all developing countries, with a multi-variety of problems. The most important one is due to the increase of population which, within formal educational system, gives rise to the problem of an increased enrollment and the need to provide additional facilities and money. In 1950 primary school enrollment was about 5 million, 35% of the primary school age population. In 1970 the number increased to 15 million or 69% of the population concerned. This is just one example illustrating the problem.

While enrollment was increasing, the non-schooling gap remained about the same. There were 9 million children of primary school age who could not be accomodated in 1950, and in 1970, twenty years later, the gap was reduced by only 2 million in spite of the 10 million increase in enrollment. The non-schooling gap was caused mainly by the mounting primary school age population combined with the ever-increasing demand for formal education -- a demand which could not be met within Indonesia's capability to provide new places and facilities in the schools due to the shortage of resources.

In 1979 we will need to provide 12 million new places and appoint more than 300,000 new teachers if we are to deliver education to all the primary school age children. This means that in the coming seven years we would have to provide 345 billion rupiahs (1 US$ = Rp 415,-) for additional pupil places and another 70 billion rupiahs for operational costs in the 1979 school year only. This last amount is equal to 200% of the 1972 Ministry of Education budget. In the mean time we need an increased budget to improve the quality of the primary school education.

There has been strong pressure for quantitative expansion and eagerness to expand especially at the primary level, but there is also a strong need for qualitative improvement. And both needs, from the standpoint of financial constraints, cannot always be accomodated. Although sheer quantitative expansion could sacrifice quantity, putting more investment into improving quality would result in the restriction of enrollment. This is the dilemma. Our present primary school system has been imbedded in the tissue of our culture for decades. It has become part of our culture. It will take time to make a total revision. Whereas the problem itself is presently with us. However, the present system has, to some extent, made positive contributions to solving the problem of mass primary education. Thus, the cry for a new approach does not necessarily mean that the present system should be abolished entirely. Rather, the challenge invites the development of an alternative system to complement the present system.

II. Basic principles to approach the problems

Other problems that Indonesia is now facing, besides the pressure and need for quantitative expansion, qualitative improvement, and shortage of resources, are problems concerning the basic concepts of education, of planning and of an outdated educational system.

In the past education has been considered as identical with schooling, rather than realising that educational processes also happen before schooling, out of school, and after schooling. Such a concept does not encompass the possibility of delivering education out of the school, does not help promote a responsibility for education in those who have no direct relation with the school, and does not help stress that the pupil still needs to learn after finishing the school. Indonesia is now abandoning this basic concept of education and adopting the concept of life-long education. This is the first principle used to approach the problem.

Thus education is not only the responsibility of the government, but the responsibility of the whole society as well. Then, the second principle is that the financing of education becomes the joint responsibility of the parents, the community and the government.

The third, fourth and fifth principles that will be mentioned below

are concerned with planning. We can not expect, while seriously and systematically launching population education and family planning, a stop in the prossure for quantitative expansion; and qualitative improvement. The population will continue to increase anyway, and the society will demand better educational opportunities, and the resources will still be limited. Thus, scarce resources should be used as efficiently and effectively as possible. This point leads to the need for improving educational planning.

So, the third principle is that in planning special care has to be given to the improvement of quality so that the pressure of quantitative expansion will not push aside the issue of quality.

The fourth principle is that in planning the plan has to be comprehensive covering both formal and non-formal education. Any action in one component should have a meaningful and positive connection with all the others in the total system. Thus the plan should be related, among other things, to the manpower need of the society and the people's aspirations.

The fifth principle is that in planning the planner must be able to see the needs and the problems far ahead in the future.

Education is a social process and educational institutions are social institutions. Thus the curriculum should be relevant to the need of both learners and the society. In the past curriculum has been subject matter oriented, geared mainly to intellectual education, detached from the problems and the needs of the society. Thus it does not help very much in satisfying the needs of the development of the nation. This situation must be changed. Thus, the sixth principle is that the education system should be designed to support the development of the nation. Instead of subject matter oriented, the curriculum should be life experience oriented. The curriculum should be geared not only to intellectual education, but also to the development of creative and innovative attitudes, to the development of the capability to communicate productively and positively within the environment, and to the development of marketable skills. In other words education should be integrated with the prevailing socio-economic-cultural settings.

These six principles should be used simultaneously to approach the problem if the result is to be significant. Otherwise, one might be able to tackle one problem but other problems in other sectors might become more serious. The application of these principles need the existence of a good planning body equipped with the right manpower and the necessary facilities.

III. Approaches to an effective and economical delivery system

Obviously there are many alternative approaches to deliver education to primary school age children which could be applied. One of these which is being explored is what we call educational packages. This delivery system can be in the form of textbooks, reading and instructional materials, radio broadcasting programs or any combination of these, and can be delivered through formal or non-formal education as described below.

1. Through formal education. This strategy for improvements in primary school is designed to achieve selective improvement for all schools in the shortest possible time. To achieve the short-term objectives a wide range of programmes and projects has been set up covering the following items:

   1.1 Textbooks - to improve teaching at the Primary School level in:
   - Science
   - Mathematics
   - Social Sciences, and
   - National Language

   A textbook development programme was started in 1969 with the training of textbook writers. Textbooks were written, printed and distributed free to all primary school students.

   The finds of the National Assessment of Education Project (PPNP) told us that owing to lack of textbooks, teachers and pupils have to give a large amount of their time - a conservative estimate would be one-third in primary schools to dictation. Even with allowance for any slight educational gain resulting from this process, some 30% of the time of both teachers and pupils is thus a dead loss.

In monetary terms this means that 30% of the 45 billion rupiahs estimated as being expended on primary education by provincial governments in 1971 - amounting to some 15 billion rupiahs, or about US$36 millions at the exchange rate used earlier - is being wasted annually. These figures do not include the substantial contributions made by the communities. There is also a loss to the country and to the economy through the lowered educational standard of manpower.

This massive loss could not be avoided by reducing expenditure since the schools and the teachers were there and had to be retained. It could be eliminated only by trying to increase the economic returns for the money spent. This means obtaining more and better learning - or, as it is usually expressed, by improving the quality of education - in return for the expenditure. To get this additional learning three factors are necessary:

a. better curricula
b. better teaching, and
c. more and better teaching materials

These three factors are inter-dependent.

1. 2 Instructional materials

Owing to the lack of instructional material it was recognized that there are hundreds of thousands of children and even teachers in schools throughout Indonesia who have never seen even a picture of the types of things commonly considered essentials in everyday life. Even their own bodies were still a mystery to them. The universe and ecosystem were foreign. The situation in the already woefully inadequate school was deteriorating. There were, for example, fewer textbooks in 1970 than there were in 1968; there were fewer good teachers, less instructional equipment and substandard classrooms to take care of an ever increasing number of children. With so many handicaps it was obvious that the preparation of manpower and the development of knowledgeable citizens were being seriously hampered. It was therefore agreed that along with the supply of text-books the

supply of teaching aids would receive the highest priority. The gains in terms of economic efficiency and effectiveness as of this approach will be similar to those mentioned earlier in the discussion of the provision of textbooks.

1.3 Teachers Upgrading

In planning for the development of textbooks and instructional materials it was fully recognized that they must go hand in hand with the training of teachers who would be responsible for better and efficient utilization of them. The present facts are that only 40% of primary teachers are trained, 50% are partly trained and 10% untrained - which, in practice, often means that they themselves have completed little more than primary education. A first step in getting better teaching, therefore, is to train the untrained and to complete the training of the partly trained teachers. Such training must include experience in the use of textbooks and teaching materials, all of which must also be made available. In turn, the teaching materials, cannot be designed and their use taught without specifying the curricula with which they are related. Conversely, new curricula are likely to require new teaching materials and new teaching methods.

The present curriculum is being revised, manuscripts of textbooks are being produced, and audio-visual aid prototypes are being designed. When this is done, the next problem is how the curricular content is to be communicated to teachers and pupils.

For this purpose mass communication media, seminars and assemblies of teachers have a part to play. However, reliance solely on such means would require many years before any appreciable impact could be made on the education system.

1.4 Educational Radio Broadcasting

Clearly, therefore, additional means of communication must be found, such as radio and television. Since, in Indonesia, economically and technically these are serious obstacles to the early large-scale use of television, priority should go

to the development of educational radio.

Even in addition to the traditional means of introducing curricula changes, such as improving and increasing the quantity of teaching materials and upgrading teachers, radio broadcasting would still be preferable since it could make the quality and effectiveness of the presentation of materials considerably higher than could otherwise be achieved.

Radio has eight great advantages in this connection, namely:

1.4.1 Radio alone (in the absence of television) can bring about the rapid upgrading of the enormous numbers of teachers involved. This can happen partly by actively associating with the broadcast lessons in preparing pupils for them and following them up by additional information, discussions, questions and exercises, and partly by direct broadcasts to the teachers on paedagogy and on the subjects being taught.

1.4.2 Radio permits curricula to be revised in all grades simultaneously, since the broadcasts can be easily adapted from year to year to take account of pupils' previous studies. If printed materials only are used changes must be introduced first in the lowest grade and only then by annual progression in the higher ones.

1.4.3 Radio permits a much more flexible approach to curriculum development than print alone. It is a difficult task to get agreement on the content of a textbook, and production of revised editions is often difficult and expensive. Broadcasts although taped for re-issue if needed, divide the material into small units which can be easily and cheaply revised as needed.

1.4.4 Since broadcasts are limited to only a small part of class time, they emphasize the most important points in the subjects being dealt with, thus clarifying matters for both teachers and pupils.

1.4.5 Radio can bring into play resources not available to the schools generally, such as dramatic presentation, sound effects and music. This can be of help to rural teachers especially. It is especially helpful in teaching languages which are not the native language of the teacher.

1.4.6 The Broadcasts act as pace makers in introducing new material which can be a great help to teachers.

1.4.7 The reaction of parents and the general public to the new curricula will be an important factor in their success or failure. Radio can be used to explain to adults the aims and nature of changes proposed and introduced, and help to gain their support. Such use is likely to be particularly important in rural areas.

1.4.8 Less printed matter is needed to produce a given result, thus reducing printing problems and costs.

2. Through non-formal education. The delivery of educational packages through non-formal education is being designed to provide for as many educationally deprived children as possible, particularly for primary school dropouts.

Early in the First Five Year Plan steps were taken to make education more relevant to developmental needs and to allow greater flexibility at the local level. The concept of the school's responsibility for the education of the community was announced. In a Basic Memorandum of 25 November 1970 a significant policy statement appeared:

> "The school should be an integral part of the community where it is located. In line with the lifelong education principle, it should be bi-functional; capable of providing formal and non-formal education, both for young people and adults."

While this statement set into motion some new thinking about the responsibility of the schools to the community, it still did not clearly open the way to community participation and the kind of

mutual assistance in which the power of gotong royong could be brought into play. The life-long education principle demands that the vehicle of education is not restricted to the schools, but may be the places of work, play, and living, such as the family, factory, office, plantation, recreation, sport and art centers and other institutions. While this moves the concept of education far beyond the confines of the classroom, the problem then becomes one of how to plan, organize, staff, finance and administer such a multi-faceted system.

Significant help was received in April 1972 by the issuance of Presidential Decree Number 34/72 which stated:

> "The Minister of Education and Culture has the overall duties and responsibilities for the development of education and training, whether these are carried out by the government or privately.

Explorations are being made to develop learning centers in the schools to serve out-of-school children and adults. The new policy, however, broadens the scope and functions of these centers far beyond the provision of learning materials. The present concept of Learning Centers is an attempt to reach out into the community rather than to merely draw people into a kind of community school.

What is the Learning Center going to be and what will make it different from any good community school? The answers to these questions are not yet fully developed, but their beginnings may be found by refering to three basic concepts which, when combined, give the Learning Center some of the uniqueness of its character:

2.1 Gotong royong or mutual assistance which, in its simpliest form means people working together voluntarily to meet the needs of individuals, the community or the larger society;

2.2 The concept of the library as a community learning materials center. This implies a central place for the collection, storage, and dissemination of information to be used by school and community;

2.3 The community service function of the school which is expressed by the active role of the school staff in helping to apply knowledge and skills to the solution of community problems.

IV. Conclusion

What system or alternative systems could be thought of as efficient and effective means to meet the demand for mass education? This is the core of the problem mentioned in section one. The question asks for a mass delivery system, i.e., a system that could be used to deliver education to as many people as possible, through the most economic and effective ways. The answer or answers which should be chosen are those that are in agreement with the principles mentioned in Section II.

This means that the system should include the formal and non-formal education, should have mechanisms for promotive joint financing for education, should be relevant to the needs of national development, and should be an organic whole whose parts are complementary and supplementary to each other.

It is clear that this becomes a big job and needs continuous and long-range planning. But this is part of the challenge. What the challenge is demanding is not only a solution to the problems for the present time or for the near future, but a solution which would pave the way or which could be used as bases for solving future problems. Otherwise the present solution would function just as a temporary solution that would make future problems more difficult to tackle.

There are so many children who need education, but many of them can not afford to be in school regularly as required by the traditional school. They can only become part-time students. And this is what the delivery system using educational packages is trying to meet through the establishment of Learning Centers. In the learning centers people can come when they have the time to learn or to practise certain educational packages relevant to their need. Or, people can ask the center to send certain educational packages at a time and place convenient to them. This would help those who can

not be accommodated in school and those who drop out.

Indonesia is wondering if the participants of this seminar would like to share their comments on any part of what has just been presented and whether the SEAMEO member countries would be interested in co-operating on the further development of learning centres and educational packages as a delivery system for mass primary education.

MINIMUM FORMATION EDUCATION
An Ethiopian Venture For Universal Basic Education

by Haile Yesus Abeje
Assistant Minister for Primary and Adult Education
Ministry of Education and Fine Arts
Addis Ababa, ETHIOPIA

Mr. Chairman,

It is an honour for me to be here in this beautiful city of Singapore, to attend this important seminar, because this makes it possible for me to learn more from the discussions and deliberations of the seminar on the vital issue of effective and economic delivery of primary education.

I feel especial honour, for being called upon, to share with you, the Ethiopian exercise, the Ethiopian bold new approaches suggested by the Education Sector Review, in response to the demanding educational problems of our day.

Ethiopia is an age old independent country situated in the horn of Africa, and has a population of some 25 million people. Education dates back to the sixth century B.C., when the Sabean alphabet was used for learning purposes. Beginning in the early years of the Christian era, the churches of Ethiopia developed school systems which over the centruries served not only as focal points for learning but also prepared the nation's religious and governmental leaders.

The first secular schools were started early in this century and a comprehensive government school system has now been established and supplemented importantly with schools maintained by the Ethiopian Orthodox Church and other religious groups and private agencies.

Achievement in education in the last thirty years has been remarkable when seen against the situation three decades ago. Starting from a low base, the system has met most of the nation's needs for trained middle and high level manpower.

However, development of the Ethiopian education system has been marked by the spirit of constructive dissatisfaction and the quest for further

improvement, rather than contentment with the progress being made.

The quest for change in education was a result of many forces and factors at work. The insatiable quest and demand for more and better education greatly exceeded the supply. The inadequacy of the preparation of those passing through its pipeline further aggravated the situation.

Dissatisfaction with the existing education system necessitated an urgent analysis of present education, and to effect reforms to meet the changing needs of the individual learner and the society.

I. EDUCATION SECTOR REVIEW

Thus the Ministry of Education, well aware of the problems related with the qualitative and quantitative aspects of the education system, responded positively with a significant measure, which attested to its determination and favourable disposition to make fundamental changes in the educational system. The response was the launching of the Education Sector Review.

The Education Sector Review aimed at:

(a) an expanded educational system to reach more of the school age children as well as adults. The Review underscored the fact that education must be reoriented to cater to the needs of the majority of the Ethiopian people. Basic education or education for minimumm formation for all citizens has been accepted as a fundamental mission to be diligently sought.

(b) It has also been accepted that the nation's economy and its educational system are vitally and intimately interrelated: educational growth is dependent on finance, and economic growth is dependent on the skilled personnel produced by the education system. Therefore, the right type of education was a necessary pre-requisite for economic growth and social betterment.

(c) It has been recognized that education must be founded on the rich base of the Ethiopian history and culture. It must foster in each individual pride and appreaciation of the nation's heritage and a vision of the future. In short the nation's education development must grow from and enhance Ethiopianization in the broadest sense of this concept.

(d) The Review has sought for a realistic approach from the economic , political, and social points of view. Attention has been focussed on maintaining a proper balance between the ideal and the possible.

Believing in the fact that expansion and improvement are possible through long-term planning and continuous evaluation and appraisal of the work being done in education, and realizing that educational programmes should not remain static and lag behind realistic expectations, the Ethiopian Government (Ministry of Education and Fine Arts) undertook a comprehensive analysis of educational needs of Ethiopia.

In October 1971, the Education Sector Review was launched with the following responsibilities:

(1) To analyse the education and training system of Ethiopia, and its capability for promoting economic, social and cultural development;

(2) To suggest, where necessary, ways to improve and expand the education and training system, so that it might achieve aims relevant both to the society and the overall development of the country;

(3) To suggest ways in which education could best be utilized to promote national integration; and

(4) To identify priority studies and investments in education and training.

The Education Sector Review made use of the talents and experience of both national and international personalities in accomplishing its important task. Fourteen Task Forces and five small Working Groups were manned by 81 highly qualified people, of whom the majority were Ethiopians drawn from various governmental and non governmental agencies. Foreign members of the Task Forces were residents of Ethiopia, most of them on long-term contracts, with such organizations as Unesco, ILO, the Ford Foundation and the Harvard University Development Advisory Service.

Eighty other Ethiopians and expatriates participated in the Symposium and Conference discussions as participants and consultants. There were International Panels of consultants and researchers from various universities of the United States of America, as well as professionals from governmental, parastatal and private agencies such as Unesco, IBRD and ECA. The Review enjoyed enthusiastic support of the bi-lateral and

multi-lateral agencies. The involvement of such varied agencies and reputed persons provided the study with a wealth of experience and knowledge.

Throughout the course of the Review, substantial efforts and resources were devoted to ensure full utilization of all appropriate means of study. Task force members and advisors visited more than 100 projects, institutions and agencies, including schools and training institutions at all levels, agricultural and urban development centres, literacy training centres, and educational administrative officers in provinces and districts were consulted. Questionnaires were completed by hundreds of people and interviews in depth were conducted with scores of knowledgeable authorities. One of the outstanding contributions of the Education Sector Review has been a thorough analysis of the potentials of the Ethiopian economy and its relationships with educational development. This was in realization of the fact that education development cannot take place in a vacuum; its assessment and analysis and recommendations have to be in line with economic growth and development. A symposium and final conference were held in January 1972 and July 1972 respectively, which further exemplified the continuous search by the Review Directorate for expert advice and meaningful participation by educational leaders. Thus through a wide range of interviews, review of vast amounts of relevant literature, through extensive and in-depth debate and discussion, the Education Sector Review emerged with a Recommendation calling for basic transformation of the existing education programme.

The directorate devised an ingeneous way of putting the various studies and recommendations in a consolidated and composite report.

National Goals

The Review believed that the role of education should be determined by the national goals and legitimate aspirations of the people. The following were indicated to constitute the main goals to be aimed at:

(1) Strengthen national unity through integration of her people and culture.

(2) Accelerate fast economic growth and development to ensure adequate living conditions for all her citizens.

(3) Develop a democratic society founded on freedom, equality and justice.

(4) Foster in all citizens a firm sense of right and responsibility.

(5) Shape a society appreciative of its ancient heritage, but dynamic enough to accept useful new innovations.

(6) Build a self-reliant nation that constructively participates in African and world affairs.

EDUCATIONAL OBJECTIVES

From these broad goals the following educational objectives are expected to emerge:

(1) To foster a national and scientific outlook on life; cultivate objectivity, intellectual curiousity , tolerence and broad-mindedness.

(2) To replace traditional negative attitude towards manual work by a positive one.

(3) To increase the earning capacity of the individual by providing relevant skills and knowledge; to make people economically self-sufficient.

(4) To provide scientific, technical and vocational education according to the level of education in keeping with the needs of the Ethiopian society and economy.

(5) To cultivate the desire for life-long education, when formal schooling has been completed.

(6) To Ethiopianize the content of Education; to promote the national language Amharic as the medium of instruction at higher levels and to give a practical orientation of instruction at all levels.

(7) To create an integrated society by drawing upon the diverse cultural and linguistic elements and creating the conditions for the formation of a truly national culture and consciousness.

(8) To foster the full participation of all the people of Ethiopia in the life of the nation.

(9) To reduce the generation gap between the educated young and the traditionally-oriented old; to bridge the gap between school and society.

(10) To prepare the nation's youth to live in a world community.

(11) To equalize access to education among all parts of the country.

(12) To provide universal access to education as rapidly as possible.

BASIC PROPOSALS OF THE SECTOR REVIEW

The Ethiopian school system is envisaged as a multi-level but integrated chain. The basic component is to be the Minimum Formation Education, leading to the Middle School, High School and Community Practicums.

MINIMUM FORMATION EDUCATION (MFE).

The foundation of this new educational structure is the Minimum Formation Education. Minimum Formation Education is a programme which aims at providing basic skills and knowledge which would enable the learner to have meaningful experience in life. It is intended to prepare children and youth for a useful end that is fitting both for themselves and their community and to those who will be occupied in productive activities within their own communities. The MFE is designed to equip the individual for life in his community, to enable him to contribute towards the development of that community, and to provide a sound educational foundation, both for the minority who will proceed to in-school Middle level education, and for the majority who will progress according to the opportunities available to them; out-of-school education and Community Practicums. Completion of this MFE programme will take a maximum of four years (grade 1-4) under the shift system.

The four years of MFE programme should be followed by four years of Middle School Education (grade 5-8). The method and criteria of admitting pupils to the Middle School will be based on achievement and aptitude for further schooling. The final four years of secondary school (grades 9-12) will by necessity be concerned with manpower development, both as to further training at the University level and for jobs at the medium skill level.

COMMUNITY PRACTICUMS

Following the MFE and running parallel with the Middle School and High School will be the Community Practicums devised to provide training

in local crafts, industries, and agricultural activities. Community Practicum means making use of certain of the school facilities and materials, and vice versa, by a group of people gatherd together to learn or practice certain skills in an out-of-school situation. It is an inter-related in-school and out-of-school practical educational experience of a semi institutionalized nature. It is essential to marry the in-school and out-of-school education to the mutual benefit of both. Although community practicums would not be a part of the formal school system, they would be closely related to it. School facilities would be made available after regular school hours to community practicums for their in-class work. Regular school teachers might serve as part-time teachers in practicums. The craftsmen offering on-the-job training in community practicums might also serve as the "community assistants" who would offer the practical training in the MFE programme. Participants would spend most of their time in practical on-the-job training and a smaller portion in related classroom instruction. They would include both those employed in a specific field and those being prepared for employment. The pupil choosing this avenue of education will apply the knowledge he acquired during the MFE training in solving problems that were not familiar to him previously.

A wide variety of community practicums would be offered to meet local and individual needs. Thus some practicums would offer training in specific skill areas, such as potteries, tanneries, blacksmith shops, cement factories, sugar refineries, drafting and surveying agencies, private professional schools, etc. The practicums will also be offered for varying lengths of time and will be cycled at varying intervals dependent on programmes, such as health education, home economics, public works, agricultural development and cottage industries, etc. As it will be a number of years before a high percentage of the nation's youth will have completed MFE, the practicums will be meanwhile made available to those without prior formal educational experience.

PRIMARY SCHOOL OPERATION AND SCHEDULE

It was suggested that a double-shift be operated in all the first level schools to enable them to cope with the expected increase in enrolment, by using the 8+1 teachers. It has also been suggested that first-level students should attend schools 220 days instead of the present 180 days in an academic year. Each teacher should take part in both the shifts -

each shift's duration being about 3 2/3 hours - teaching for about 4 2/3 hours a day. Pupils would be grouped in classes averaging 50 each.

ENROLMENT GROWTH IN PRIMARY SCHOOLS

First level enrolments should be expanded as rapidly as possible to achieve the objective of basic mass education. It is intended that ultimately all children, starting at age 7, will be enrolled in the Minimum Formation Education. However, national policy and financial resources will dictate the percentage to be admitted to both Middle school and High School. Enrolments in second and third levels will have to be related to needs for trained manpower and are expected to grow at about 2.6% per year, the same as the population growth.

PRIMARY SCHOOL CURRICULUM

It has been recommended that first level curriculum should be modified to place greater emphasis on environmental and work-oriented studies, particularly in rural areas on agriculture. The MFE School should be a unit, and its impact should be as a whole, both upon the individual and upon the community. It should provide the learners with the tools which enable them either to continue with in-school education or to contribute to the overall development programme in one of the out-of school or Community Practicum Programmes. The programmes should consist of four broad areas:

(1) Core skills, comprising communication and computational skills.

(2) Practical Activities. comprising both the practical approach to learning and actual physical work.

(3) Physical, Moral and Cultural Activities

(4) Environmental Studies, in which topic work based on Science and Social Studies will increasingly integrate all 'subject' areas and relate them to the environment in a practical manner.

PREPARATION OF TEXTBOOKS AND OTHER EDUCATIONAL MATERIALS

A major weakness in the present educational system is felt to be the lack of suitable instructional materials and textbooks. The Sector

Review endorsed the plan of the Ministry of Education to establish an Educational Materials Production Centre, which would prepare and make available instructional materials to the students on a quasi-commercial basis. It also recommended additional school libraries as sources of instructional materials. It suggested a four-fold increase in the amount spent for instructional materials.

New course books should cease to be the means of transmitting factual information only, but it should encourage pupil activity and problem solving. Each students' work book must be accompanied by a very detailed Teachers' guide. Other printed materials should be made available such as wall charts, background readers, and programmed learning materials.

INSTRUCTIONAL TECHNOLOGY AND MASS MEDIA

The Sector Review has suggested that radio and television should be regarded as basic teaching tools to be co-ordinated with printed materials in an integrated instructional programme. It has recommended for the creation of a Centre for Educational Technology. Learning becomes more meaningful to pupils if it is presented through a variety of media, and it signifies the role of mass media in maximizing learning experiences in schools. The emphasis should be on materials that are capable of appealing to the students' insterests as well as catering to their several senses.

The instructional methodology at all levels and in all systems will emphasize (a) integration of subjects, (b) enquiry method of learning. and (c) multi-media presentation of materials. As a consequence of this three-pronged approaches, a large part of the content will be organized into a "topic" or "unit" approach rather than discrete subjects. Flexible patterns of grouping students for instructional purposes, such as large groups, small groups and individualized instruction, should substitute for the traditional pattern of a class size of forty to fifty students for all instructional activities.

The Sector Review has suggested that radio could be used as a part of the mass media to provide Adult Education, instruction in agriculture. child-care, house-making. nutrition. teaching Amharic and other subjects to a vast audience throughout the country at a very low cost

TRAINING OF PRIMARY SCHOOL TEACHERS

At present there are about 7,000 trained graduates with 10 years of general education and 2 years of training. In view of the existing financial constraints and the need to spread education more rapidly among the masses, the Sector Review has suggested that teachers with 8 years of general education and one year of training could be gainfully employed at the first level, at half the cost of the regular graduates of the Teacher Training Institutes. These teachers should be carefully selected so that they could help their students learn through experimentation, exploration and involve the community in their learning experiences, and the school in community's development. The Community Assistants may have had little or no conventional schooling, but should have knowledge of the local area, willingness to contribute to the betterment of the community and experience in certain skills e.g. local crafts, history, folk tales, etc.

The curriculum of the Teacher Training Institutes to prepare teachers in one year should be restructured to include the subjects they will be required to teach, psychology of learning, people and culture of Ethiopia, evaluation techniques, preparation of teaching materials, etc. There should be improved supervision and guidance by school-directors and supervisors and provision should be made for proper in-service training through seminars, refresher courses, etc.

The existing regularly trained graduates would give skeletal support to the whole system and the increased use of 8+1 teachers would have a marked effect on the ability of the nation to expand its first level schools within its limited financial resources and to meet its educational objectives.

SCHOOL FACILITIES AND THEIR EQUITABLE DISTRIBUTION

The Review has recommended that new schools should preferably be located in areas with low participation rates and high unfulfilled demands, especially at the first level. In each of the 102 sub-provinces, first-level schools with six class-rooms serving 600 pupils, should be equitably distributed among 100 square kilometre catchment areas having elementary school-age population of 600 or more. Later on, the building programme could shift to providing four-class-room-schools in

catchment areas with 400 to 500 school-age children. In later part of the century, still smaller schools would be built in more sparsely populated areas. Meanwhile, some of these areas would have been served by church schools, non-formal education programmes and exposure to mass media.

The sub-provinces should bear the cost of these buildings, other than the amount available from external aid. They should make a thorough study of school construction, after determining the most economical designs and construction materials, taking into account such factors as regional variations in climate, building materials and construction methods.

In addition to existing facilities, new schools will have to be built. New facilities should include, in addition to regular sized classrooms, at least one large multi-purpose room capable of housing 150-200 students. This room can be used for large group instruction, student assemblies and physical activities during inclement weather and for general classroom instruction with a number of classes occupying the multi-purpose room at one time. Churches, community halls, and other public buildings should be considered as school locations until proper construction of suitable dwellings are completed.

EVALUATION

With the introduction of Minimum Formation Education testing procedures must be geared to the new educational aims. Significant changes would be made in test and examination procedures and they would be supplemented by additional means for evaluating student performance and capabilities. e.g. remedial work - to determine student needs in specific areas; guidance work - to channel students according to interest and aptitude; and administrative work to facilitate selection and placement of students.

The MFE programme would be oriented to local needs with the curriculum varying from place to place. Further more, under the proposed topic approach, traditional subject areas would tend to merge, making the administration of examinations at regular intervals more difficult. Student performance would, therefore, be evaluated on the basis of normal class-work and assignments which would favour a reasonable

degree of competition while not making the whole system examination-oriented.

Promotion within a given school should be decided on the basis of the student's performance in class, by teachers and directors jointly. All pupils would be awarded graded completion-of-studies certificates at the end of MFE. All pupils leaving school at a given stage - whether terminal or not - would be given achievement certificates. Promotion to a higher level of education would be decided by teachers and directors jointly, following the administration of aptitude tests and the study of pupils' report cards.

To help carry out the present and future administration of educational testing activities, it would be necessary to establish a National Examination Board, specifically charged with the running and the administration of examinations and tests. This would ensure that the aims of examinations are properly implemented. Instructions regarding the number of examination sessions per year, types and format of examinations and regulations limiting the time to be allowed for testing activities could be issued. Seminars and in-service training should be organized in order to give present teachers a working knowledge of test construction. Relevant literature would be made available and widely circulated.

ADMINISTRATIVE PROCEDURE

In order to ensure proper implementation of the programme, it would be necessary to provide an effective administrative machinery both at the national and local levels. It has been accepted that administration and management of education must be decentralized for purposes of efficiency and relevancy. As one of the most unique features of the programme is Community Practicum, an Inter-Ministerial Board on Community Practicum should be formed. Separate panels of MFE, Middle Schools, and Community Practicums would have to be created. Teaching materials should be produced as much as possible at the local level and regional centres for the production of locally designed instructional materials should be established.

NON-GOVERNMENT PRIMARY SCHOOLS

In 1970-71, non-government schools accounted for 28% of the total

elementary enrolment. In accordance with the objective of applying available funds towards the goal of maximizing first-level school enrolments, the Review proposed that the Government should encourage non-government schools by allocating funds as subsidies to approved first-level non-government schools.

II. THREE ALTERNATIVE STRATEGIES AND THE STRATEGY RECOMMENDED BY THE SECTOR REVIEW FOR FIRST-LEVEL EDUCATION

The Sector Review after concentrated deliberations and bearing in mind the basic proposals mentioned above, formulated three alternative strategies, and also its own recommended strategy, on which the future development of Ethiopian educational system could be based. These are summarized as follows:

ALTERNATIVE STRATEGY I

It provides for the continuation of the present 6-2-4 system with certain significant modifications to speed up the realization of mass education at the first level. It recommends the revision of curricula to make both primary and secondary education more practical and meaningful to the great majority of students who do not go to higher levels, by including work-oriented and environmental studies. It also provides for a double-shift system and for the employment of 8+1 teachers, teaching during a portion of both shifts. It suggests an in-take of 50 students per class in grades 1-6 and an academic year of 220 days. The primary level would generally cover students in the 7-12 age group.

ALTERNATIVE STRATEGY II

It calls for a 4-4-4 system with the curriculum in grades 1-4 changed very substantially to provide a 'Minimum Formation Education', which would emphasize meaningful activity and experience, environmental and work-oriented programmes as well as development of basic literacy, numeracy and reasoning skills. Course material would be integrated into cohesive areas of study, rather than taught as separate and discrete subjects. The school operation and schedule would be the same as suggested in Alternative Strategy I. In addition to certified 8+1 and 12+1 teachers, instructional staff would include "community assistants" who would teach practical subjects. The formal school system could be

closely co-ordinated with the non-formal but structured, system of Community Practicums', which would offer out-of-school education for all age-groups. The typical age-group would be 7-10.

ALTERNATIVE STRATEGY III

It provides for two parallel educational channels:

(1) a 4-2-4 system which would accept 9 year old students or older and, in four years, prepare them for gainful employment at the local level, or for subsequent non-formal education, or for entry into Junior and Senior Secondary Schools of some selected students.

(2) a 2-3 year programme, which would enrol students of 12 years of age and older, who have had no school experience previously and give them two years of 'basic formation', to be followed by 3 years of 'secondary formation' for certain promising students.

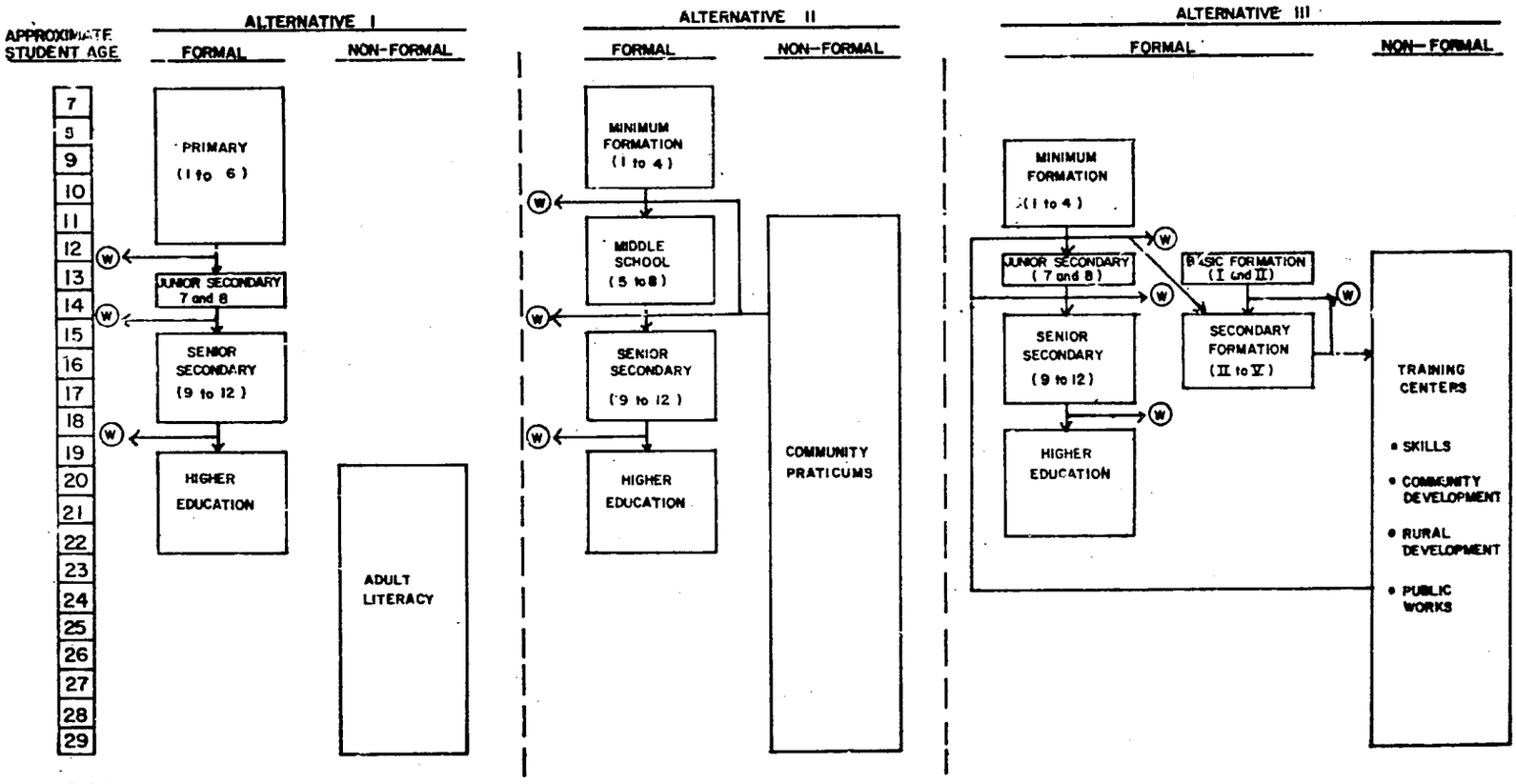
The two channels of formal education would be so co-ordinated as to permit transfer of some students from one to the other.

It includes certain features of non-formal education related to community, rural development and public-works programmes, mentioned in Alternative Strategy II. Most of the students would terminate their formal education and enter the work force. It makes similar provisions for school operations and schedule, and teachers, to those in Alternative Strategy I and Alternative Strategy II.

To facilitate reference a comparative statement of the school operating characteristics for all the above three Alternative Strategies for the first level education is given both on the chart and the table below.

Description	Alternative I Strategy	Alternative II Strategy	Alternative III Strategy
Grades	1-6	1-4	1-4
Typical age group	7-12	7-10	9-12
School days per year	220	220	220
Shifts per day	2	2	2
Pupils per class	50	50	50

ALTERNATIVE STRATEGIES FOR EDUCATION IN ETHIOPIA



LEGEND:

W: Indicates students who leave school at every level to enter work force

Distribution of trained teachers: i) 8+1	85%	85%	85%
ii) 12+1	15%	15%	15%
Approximate percentage of instruction by:			
i) Trained Teachers	100%	70%	70%
ii) Community Assistants		30%	30%

STRATEGY RECOMMENDED BY THE SECTOR REVIEW

The above three Alternative Strategies were evaluated and debated extensively during the Sector Review Conference, and at its conclusion agreement was reached on the course most favoured by Review participants. The Strategy recommended by the Sector Review incorporates modified Alternative Strategy II and certain key elements of Alternative Strategy III. It provides for the following:

(1) Four years of minimum formation education, to be made available to all children as rapidly as permitted by financial constraints.

(2) Two years of basic formation for youth and adults who have been unable to attend MFE programmes.

(3) A four-year middle school and four-year senior secondary school programme for a limited number of graduates of MFE and basic formation programmes.

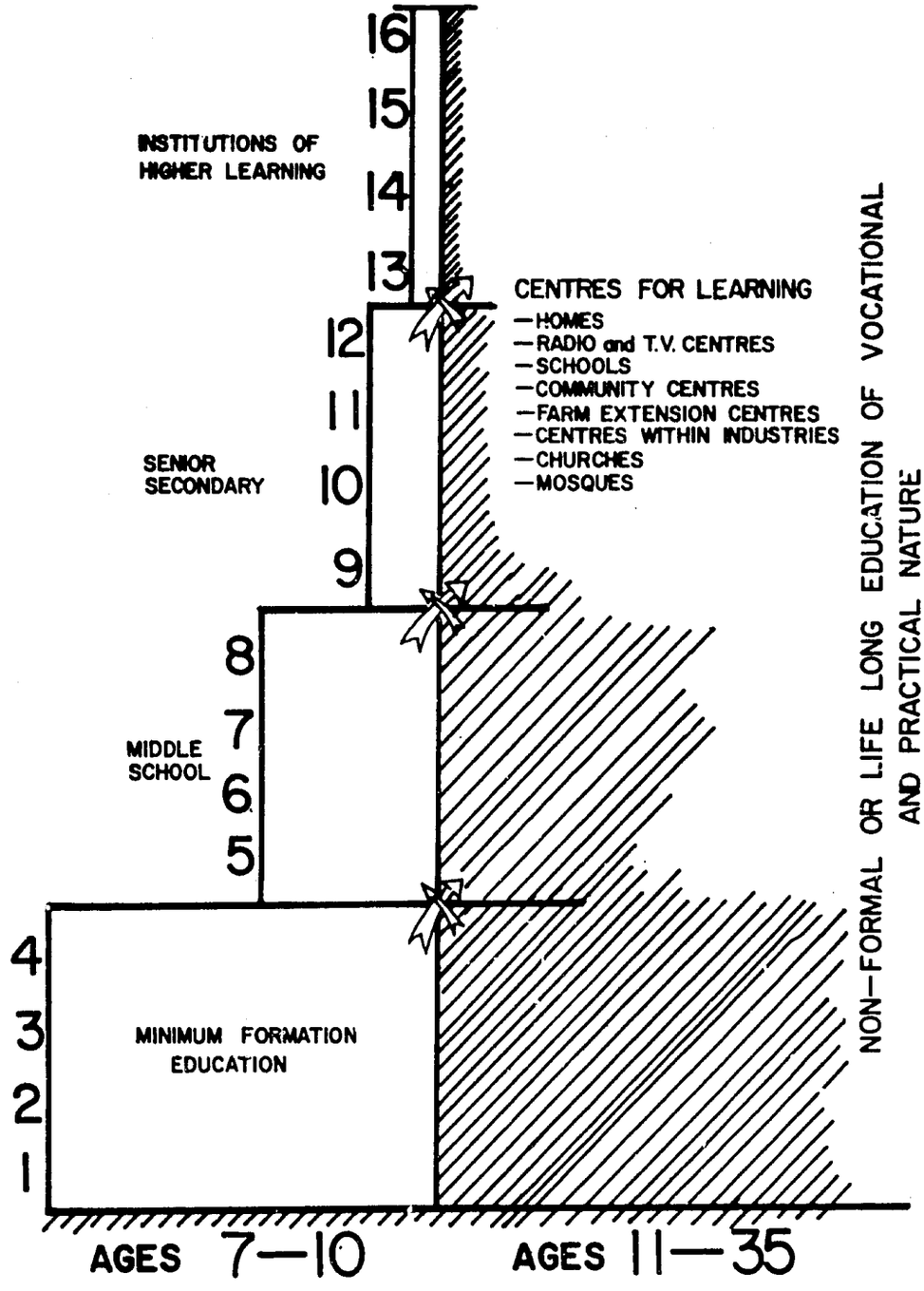
(4) An extensive system of non-formal educational programmes for youth and adults, which would be closely related to the formal system.

This strategy is illustrated in the chart below.

The participation rates under this strategy are as under:

Description	1970-80	1984-85	1989-90	1994-95	1999-2000
Age group 7-10 (MFE & Non-Govt.)	44%	45%	50%	64%	80%
Age group 13-35 (Basic Formation)	31%	31%	40%	40%	26%

STRATEGY RECOMMENDED BY THE SECTOR REVIEW



The significance of this is that of the babies born during 1972-73, 44% will enter MFE or Non-Government Primary Schools in 1979-80 and 31% will enter Basic Formation Programme six years later in 1985-86. Thus, about 75% of this age cohort will have attended first level schools. The participation rate will continue to increase and it can be seen from the above table that some 90% of the children born in 1982-83 will have access to educational opportunity, with about 50% attending MFE and non-government schools in 1989-90 and about 40% entering Basic Formation Programme six years later. With 90% participation rate, Ethiopia would have achieved universal educational opportunity for those born in 1982-83 and thereafter.

Thus, the recommended strategy assumes the implementation of the following:

(1) Improvement of curriculum of the programme to satisfy local needs.

(2) Economy in expenditure by using 8+1 teachers.

(3) Streamlining of Teacher Training Programme to meet practical needs.

(4) Strengthening of Supervisory Services.

(5) Decentralization of Administration and financial Management.

(6) Supply of improved instructional materials.

(7) Co-ordination of efforts of various agencies and institutions in the implementation of this strategy.

CONCLUSION

Assuming the implementation of all Sector Review recommendations Ethiopia would have achieved near universal basic education by the turn of the century. The Sector Review does offer certain tangible solutions to the educational problems of Ethiopia. It may not be out of place to quote here Dr. Malcolm Adiseshaiah, Chairman of the Review Conference in July 1972, who said: "Today, once more here in Addis Ababa, in this Africa Hall, we have brought to conclusion, an Ethiopian Model for a learning society, an Ethiopian Programme of educational reform, restructuation and rejuvenation. This national model we are recommending. is at once a continuation and a change, a running follow-up, and a reversal of the Addis Ababa Plan" of the 1960's.

We hope that the Ethiopian venture, the Ethiopian model might offer possibilities to countries faced with similar educational problems.

The improvement of the quality of life of our children as well as our fellow men, through education, is the noble task we are after.

This great task has to be realized with the least expenditure of financial and material resources, with a most effective management and with bold new and imaginative approaches. Education, today, poses serious problems and promises great possibilities.

It is incumbent upon us to respond to these challenges. With a will and a committment to the cause of the right type of education for all, it can be done.

Thank you.