education for rural development
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During the seventeenth General Conference of Unesco, delegates from Spain and Latin America stressed their interest in a Spanish version of *Prospects*.


A Spanish version, conforming in all respects to the French and English ones, is therefore available to readers in Spain and Latin America.

For the sake of continuity, Santillana has also published a selection of articles which appeared in the four issues of 1972, separately, as a special issue.

Our Spanish-speaking readers will find a subscription form at the end of this issue.
The maieutic approach: the plan of a new educational centre at Partinico

Danilo Dolci (Italy).
Sociologist, writer.
Co-ordinator of the Centro Studi e Iniziative at Partinico, Sicily.
Among his numerous publications are: Conversazioni, Chi gioca solo, Inventare il futuro, Chissà se i pesci piangono.

The writings of Danilo Dolci have been translated into many languages; he himself has lectured around the world on his theories and activities. In a number of countries organizations have been formed for the sole purpose of supporting and extending his programme.

Born in the north of Italy, Danilo Dolci has identified himself with the lot of the poor peasants of Sicily. Faced with the power of the Mafia, supported by a number of politicians, he has endeavoured to organize the peasants in co-operatives which might successfully resist those who exploited them. As a consequence, he has encountered the hostility of local authorities and has been imprisoned on several occasions.

One of his best-known books is entitled The Man who Plays Alone (Chi gioca solo), a reference to a Sicilian proverb: ‘The man who plays alone never loses’. Danilo Dolci had to fight not only against the Mafia and their allies but also—he affirms—against this Sicilian tendency to ‘go it alone’, to avoid all social entanglements except for the immediate family. He has succeeded to a great extent, and a number of Sicilian co-operatives are now functioning successfully. One striking accomplishment has been the building of a dam which is helping to irrigate the farms over a wide area.

The keynotes of his activity are co-operation and dialogue. In the preparatory phase of the new centre which he is in the process of creating in Partinico, he has not only consulted educators and psychologists; he has brought together for group discussion the children themselves, and also their parents, so that the school might meet the needs and desires of those most directly concerned by the educational process, rather than merely accepting the decisions by outsiders who ‘know what is best for the children’.

Otto Klineberg
What basic theoretical conclusions have we reached from twenty years of educational activity, and particularly from recent experience? They can be stated quite briefly in a number of points which are the result of mature deliberation and which constitute the premises upon which the new educational centre at Partinico in Sicily is at present based, premises which are open to any modifications which may prove necessary.

The project on which we are now working comprises an educational centre for small children aged between 4 and 6 (space for four groups plus covered recreation areas), two educational centres for the first two cycles, ages 6 to 11 (ten groups), an educational centre for the third cycle, ages 11 to 14 (six groups), various shared facilities and games facilities. No rigid separation between the different cycles is planned.

Learning and development will be based chiefly on the following methods: individual discovery;\(^1\) the process of group discussion (maieutics),\(^2\) in its simplest form a dialogue through which each individual develops the ability openly to use the group situation to the best advantage, thus working towards the ultimate goal of creating an essentially maieutic society; the participants’ individual interests and the study of the environment constituting the basis both of the methods used and of the programme content, between which there will, of necessity, exist a dialectical relationship; the dialectical relationship between discovery and original, creative rediscovery, and the acquisition of the cultural heritage developing outside; those methods for use with individual subjects—both individual and group methods\(^3\)—which are best calculated to promote heightened awareness and organic development; the development of a realization that it is not possible to make only analyses or to make only syntheses and make them too soon; co-ordination in planning, so as to be able to produce things together in the short or long term, and in co-operation with the groups involved in the development of the region.

All the methods above are open to change through new, creative ideas, and even to the taking of risks: we do not want to sink into the routine of a year-long meeting or into a new dogmatism.

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2. See also, *Conversazioni*, Einaudi, Turin, 1962.
3. Several individual methods have been tried out in the last fifty years.
The use of new terminology, when it is not intended merely to reclothe old concepts, may also be revealing:

<table>
<thead>
<tr>
<th>Old term</th>
<th>New term</th>
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<tbody>
<tr>
<td>schoolmaster, teacher</td>
<td>educator</td>
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<tr>
<td>pupil</td>
<td>student(^1)</td>
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<tr>
<td>school(^2)</td>
<td>educational centre</td>
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<tr>
<td>class(^3)</td>
<td>group</td>
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<tr>
<td>headmaster</td>
<td>co-ordinator</td>
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<tr>
<td>teacher's platform</td>
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<tr>
<td>discipline</td>
<td>responsibility</td>
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<tr>
<td>lecture room</td>
<td>council(^4)</td>
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<tr>
<td>grading, tests, examinations</td>
<td>collective assessment, objective and subjective</td>
</tr>
</tbody>
</table>

Certain terms, used in a new context, obviously take on a new meaning. Thus an educator (in the maieutic sense, that is to say someone who educates in a particular method) is a counsellor who fulfils his responsibilities, and anyone may be an educator. Admittedly the syllabus is ‘written beforehand’ but it is written whenever possible together; the book is a collection of pages sewn together but if necessary thought out, written and perhaps also printed together.

In the educational centre which we are planning to set up we do not intend to give special emphasis either to activities (thus avoiding the pitfall of activism) or to mental exercises (avoiding that of intellectualism). As the children develop we shall try to strike a balance between thought and action, and to encourage physical and mental activity in accordance with the following progression: observation, concentration; maieutic elaboration of the initial statement of the problem and of the hypothesis; establishment of a plan of experiments (individual and group) to test the hypothesis; thinking through of the problem (individually and in groups); tentative formulation or verification of the theory; verification of suggested hypothesis; adjustment of the theory.

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1. To study: from the Latin *studere* meaning ‘to be zealous, keen’; ‘pupil’ meant originally a ‘ward’.
2. School (from the Greek *skholē*: leisure), originally a place of rest where instruction was given. The word has, of course, been adopted by several languages apart from English including Italian, French, Spanish, Russian, German, Swedish, Finnish.
3. Class: from the Latin *classis*, army, fleet.
4. Council: a place for discussion, a deliberative assembly (from the Latin *consiliari*, to take counsel).
Thus everyone in the educational centre, where there are no water-tight compartments between the arts, the sciences and morality will have a good opportunity to achieve a heightened awareness and to grow in an organic way by discovering methods of developing his analytical powers and his imagination, his ability to act in a way which changes reality.

Obviously the emphasis will vary according to the various age levels. For young children the emphasis is on play and a carefully protected spontaneity, whereas for older children a sounder relationship with the world, a growing capacity for systematic thought and for the acceptance of responsibilities take on increasing importance. At some point in the progression the drawing of theoretical conclusions from the resultant patterns and structures and the new products of the process are developed each in turn.

The fundamental assumption of the new educational centre is that young children, and children generally, have their own vital interests which they must discover for themselves, and develop together with people who are willing and able to discover, to create and to stimulate interest.

There must be no question of forcing the child to go to the centre: the centre itself must attract him there. The youngest children, until about the age of 8, will have a man and a woman with them.

An educator is essentially an expert in maieutics, by which is meant a process of collective exploration, both theoretical and practical, and which takes as its starting point the experience and the intuition of the individual. From their earliest years, the children in the groups are encouraged to experiment in finding things out together, to try out ways of understanding one another, of taking decisions together, of working together, of co-ordinating their activities, of each becoming maieutic.

What is wanted is not a teacher who merely talks about music but education in music by a musician. Similarly, the 'literary man' does not begin with the alphabet and grammar, but helps with the processes of discovery, and of poetic and linguistic communication; the painter or sculptor helps the children to discover and to express form through drawing, painting and modelling; the mathematician helps them to discover and to formulate quantitative and other relations. The physicist, the chemist and the biologist will work closely together with each of the children in the discovery of physics, chemistry and biology, and an expert in the subject will help them to discover historical and geographical roots and contexts.
Although one must be sure that proper communication is established with the children, what is needed is not a teacher of photography but a photographer who goes off in the morning with the group, each member of which will be able to take his photographs in the mountains, by the sea, in the countryside, in the streets of towns or inside houses. Each member observes, records and develops his photographs individually, then they all discuss the results together. The choice of subjects to be observed is decided together (one of the possible choices being that each one will photograph what he wants) and the process of discovery can be taken up again and carried further.

Basic to everything is the emphasis on answering the question ‘Why?’

In this respect, the way we want to develop musical expression is revealing. In a confused world, in which music is considered at best as a pleasant ‘hobby’, and therefore as an optional extra, since people have been unable to escape from the crude conception that art should provide ‘enjoyment of the beautiful’, it becomes clear to everyone that one does not say to a child ‘you must speak’ or ‘you must play an instrument’, but on the contrary one says ‘a blind man is still a man, and so is a deaf man, a dumb man, and also a man who has difficulties of co-ordination; but it is better, obviously, to refuse to be blind, deaf, dumb or unco-ordinated’. Kodaly was quite right in saying that the musical culture of a country cannot be a matter for the musicians alone, that it is something which involves the people as a whole, and that everyone shares in it, even children. And this is true of any form or aspect of culture; it cannot be created solely by specialists. A healthy person learns to use his ears, his eyes, his hands, his mouth, his whole being; one does not aspire, obviously, to make geniuses of everybody or to make them geniuses at everything, but one cannot resign oneself to growing up insensitive and limited. Education involves various forms of discovery and expression and its aim is organic development. A group learns about a subject, whenever possible, by talking about it and writing about it, by analysing and photographing, by drawing and modelling, by putting it into practice, by thinking about it, i.e. experiencing the subject in the most appropriate way. Various forms of learning have to be tried out in order to work towards a unitary form of learning. Cross-disciplinary pynamics are then incorporated with inter-group dynamics.

From the very beginning, the relationship between the centre and the children’s families must be clear. There is a hypothesis which
needs to be carefully verified. The adult does not himself aim to co-ordinate, but wants co-ordination, a co-ordinated life. Though responsive to every spontaneous impulse, we certainly do not consider that democracy is the same thing as laissez-faire. The adult exists and has a certain stock of accumulated experience: he wants to verify it with others, not to feel that the alternative is imposing it or suicide. The method is improved, month by month, year by year, and not by educators alone or by the educators and the families, but by the children, the educators and the parents together. They also study the possible relationship between the experience of the centre itself, and other experiences, including those of other schools.

There should be no gap between the educational centre and life: the mother, the peasant, the artisan, the workman and the co-operative member will bring their problems and they will be studied together. To this end there must be close contact with the problems of the local population, whose experience is turned to good account in a dialectical manner. Though apart from the houses of Partinico, the centre is at the heart of its day-to-day activities.

All around in the plain below, the local people are transforming the land with water from the reservoir; people can see and feel that the face of their land is being changed, day by day. In the evening the centre continues to be a centre of life, linked with the life of the town.

The location of the centre enables it to partake not only of the toil of the countryside but also of the silence—or the voices—of the mountain. The centre's radio station will not be just for show but will offer an opportunity for participation and real contact with the whole of the audience concerned.

The very idea of the children being cut off—for better or worse—from the more dynamic outside world is unacceptable. Italian, French and German are becoming dialect languages, as has already happened in the case of Danish, Swedish and Norwegian. A knowledge of linguistic roots is essential, but the relationship with the world as a whole begins in childhood. The serious study of English begins from the age of 10 (a certain knowledge of Russian also, and at least 100 Chinese characters, learnt as a sort of game), but the children can already sing in different languages, and are thus prepared for different phonetic systems: there is a rich store of music which can be used for this purpose. In order for small children to learn a language, it seems they need to have among them someone who speaks to them only in his native language (English for example),
in games, in activities, in everyday life; it is also necessary that this person should give the children a sense of security and a natural interest in the world in which another language is spoken. Thus the child learns the language, by hearing it and speaking it, absorbing it, in fact: one learns languages in order to communicate with people of whom one is fond ('living or dead', says Bryan Dutton). Technical devices and, if possible, travel, can later improve this background but it would be ridiculous to use them merely to effect a breakthrough.

Experiments during the coming years will allow us to see more clearly what form the different courses for young people over the age of 14 should take. In the meantime, the following is the programming method we have tried out and which we intend to improve upon: (a) meetings with local groups of children, educators, parents; (b) seminars of a general nature on the problem of educational development with experts (educational experts in different subjects, architects, psychologists, technologists, experts in socio-economic work, etc.); (c) formulation of the first draft; (d) further meetings with children, parents, educators; (e) further documented experimentation; (f) publication of documentary material; (g) discussion with specialists (and also scientists and artists) on the notes relating to the method and the draft of the project; (h) reconsideration and modifications; (i) finalization of the project; (j) start of operations of the centre.

We are aware that the tone in which these assumptions are presented is almost peremptory, and that this is apparently at variance with the maieutic principle; we regard as essential for educational development the dialectical process which takes place between consciously assuming responsibility and using maieutic means to develop in other people the capacity for choice and the acceptance of responsibility.

At the end of the week, each group meets to discuss, with a different co-ordinator each time, the following: (a) the report of the evaluation unit which prepares a critical assessment of the week's activity and the methods adopted during the week (this unit changes each week); (b) the notes, the daily records concerning each day's discoveries.

Attention must be paid to the need for integrating practical and theoretical work: the tendency with the former is to generalize from one's own experiences, with the latter to get out of focus by attempting to see into the future. Attention must be paid to the processes of empathy, in the sense in which Klineberg uses the
term, so that bad feelings and pointless conflicts may be avoided, not
in order that other people's points of view may be automatically
accepted, but that they may be understood (for this purpose, it
might be possible to use modern apparatus like the video tape-
recorder, which it may be possible to link up with individual
households, almost all of which, however poor they may be, have
television—though we do not claim that such machines deserve
uncritical veneration). In order to establish peace throughout the
world it is essential to get rid of people's confused aggressivity.

Every week at least one close acquaintance of the children should
take part in the activities of each group.

In order to avoid any possibility of misunderstanding, I should like
finally to explain two points which I consider fundamental. It is
essential to begin gradually. We know that, even under the most
favourable conditions, shutting up thirty children and one adult in
a classroom for several hours a day, over a period of eight or nine
months, and shutting up a thousand or so children and thirty or so
adults in a school for a year can result in a relationship of authori-
tarian tendency and, by a process of reaction, in the near-chaos
of spontaneism.

A relationship based on knowing each other and on building up
the kind of respect which recognizes the individual value of each
member of the group is something quite different, and allows the new
community to develop over the years, on the basis of its own achieve-
ments in terms of method and civilized behaviour.

I am also convinced that nobody can raise any valid objections to
the use of the maieutic approach in facing any new problem, or
acquiring experience or knowledge.

It is in any case something positive if one is able to know by direct
means how each individual thinks (making use of the meeting as a
sociological indicator, on the level both of the individual and of the
group). One should generally start off from what the children consider
it necessary to know from subjects which interest them, thus setting
off an organic process based on the individual's own experience.
This applies particularly to cases when the children themselves take
responsibility for the co-ordination of research or group work: the
acquisition of basic experience, a closer and deeper participation, the
acceptance of responsibility for getting on with their work gradu-
ally extend the limits imposed by the children's lack of experience.
Obviously, in this way, certain questions which do not necessarily
require precise answers can usefully be tackled (for example: ‘What different kinds of silence can there be? What is destiny? What is hope?’) and the adults can contribute an accumulated stock of ideas, if not of knowledge and sure answers.

The problem arises in a different form when there exists an accumulation of scientific data and ideas (although the meaning of the term science needs to be kept under constant revision) which it would be presumptuous and absurd to ignore, although difficult to verify.

As Chiara said to the astronomer: ‘I believe that each of us now feels the urge to observe and to study better and study more.’ But it is true that when we are ‘too far out of our depth’ we can get stuck, and are in danger of staying that way, or of easily losing interest.

The old type of geography lesson is generally rather grim, but, on the other hand, there can be no question of throwing away atlases and maps and being satisfied with knowing only the places we can actually visit.

This is the area, I think, in which the most difficult problems arise. I believe we must take great care to avoid the subterfuge of using the maieutic approach as a means of making the pupils more receptive and arousing their interest merely so as to enable the adult to drum in his lesson more effectively. I think that a way of solving the different problems which arise can be found through collaboration among the children, the educators and the subject expert, that is to say by trying, within a given subject, to find ways of rediscovering, verifying or acquiring new knowledge without breaks in continuity, gaps or fragmentation. It is also necessary to offer starting points corresponding to the children’s basic interests.

It is one thing, as Klineberg says, for example, to memorize something from a biology textbook, and quite another thing to examine together with the children the question why one of them is like his father or his mother, why he is different from other people, even from his brothers, why his skin is a different colour, why he is a particular height and not some other height, why our health depends on the different food we eat or whether we eat at all.

A midwife helps to bring forth the new life which the mother carries within her. Thus if we ask ourselves or ask others, for example, what are hope or love or life, an answer will tend to emerge, since everyone has hoped, loved, lived, and in other words already has within him the seeds of an answer. Hope is like triangles, when one is motivated enough one can begin to study them, and when one is ready to understand them one can understand them.
In particular fields it is essential to broaden the group maieutic approach to include those who, like Galileo, Torricelli, Lavoisier, Boyle, Newton, Huygens, Young, Fresnel, de Saussure, Volta, Galvani, Darwin, Freud, Adam Smith and Marx, saw the world in a new light, making experiments with simple instruments but with profound insight and practising science as a human activity.

The instinctive objections to this approach are not without foundation: children have no culture; requests often do not come from the children; one has to act fast—it is impossible for everyone to rediscover everything; methodical verification cannot be the only basis for work; the justification, according to Socrates, of the maieutic method was that knowledge was for him a recall of what one already knew.

One must look beyond the Socratic fable—and beyond the Socratic model itself—and pick out the essential point: how is one to deepen or extend the power of observation, to exercise it and give it expression in various ways, to deepen and develop personal experience in order to try to solve the problems which face us in everyday life.

One can go far by working together to find a valid basis for research, work and verification: one interest may lead to another in a never-ending chain.

A work of education, like a work of art, comes into being as it develops and it evolves in a way which is by definition unforeseeable.
A conference on participatory planning in education was held in January of this year sponsored by the Country Educational Planning Programme of the Organization for Economic Co-operation and Development (OECD). Reporting and interpreting a wide range of country experience, the complete papers to this conference will be published in July, from which the following paper by Kjell Eide is drawn, with the authorization of the author and of OECD.

In practice, most innovations introduced into organized processes and operations imply a shift in the goal structure governing them. Quite often such a shift can be obtained only through a change in the existing power structure, which must precede or accompany the innovation.

In principle, an innovation can imply benefits shared among all those involved in a process or an operation, and all those concerned by its outcomes. However, experience tells us that this is very rarely the case as witnessed by the current debate on the consequences of economic growth and technological development. Innovations in education in recent years are even more illuminating on this point. They are nearly always accompanied by shifts in the emphasis on various educational objectives, and by more or less subtle changes in the educational power structure.

This situation explains, at least partly, the current tendency to look primarily at the power structure as a means of achieving innovations, in the educational system as well as in other sectors. The current concerns for participation in the decision-making processes may be viewed in this context. The meaning of participation, then, obviously depends on what innovations or what shifts in objectives are aimed at.
What is participation?

It may be assumed that participation means a share, in some form, in decision-making. It may also be claimed that all those influenced by decisions should have a share in them, on the grounds that decisions should be based on full knowledge of their consequences, and that this is best ensured by bringing into decision-making all those influenced by such consequences. One may also claim that as a political principle everyone should have a certain amount of control over his life situation.

Such broad principles sometimes lead to meaningless statements of policy, such as 'maximum participation for all concerned'. Clearly, if decision-making power was a free good such statements might make sense. As it is, decision-making power certainly has to be rationed, and its distribution among groups and individuals is the essence of politics. Furthermore, the sheer number of those concerned will in many cases make direct participation impossible. At most, one can achieve a substitute for participation through representatives of interested groups.

To take the educational system as an example, we have the groups directly involved: educational policy-makers, administrators, teachers and other employed personnel, students and pupils. In addition, we have other groups more or less concerned with what the educational system produces: parents, employers, professional associations, ideological organizations, politicians in general, etc. Clearly, participation of all those concerned would mean most of the population, and many in more than one capacity. In addition, it would be fully justified to include future generations.

A representation system is obviously needed. Participation in the form of election and possible rejection of representatives is in any case a necessary element in a democratic decision-making process.

However, as a means of securing the individual a reasonable chance of controlling his own fate, intermittent voting on representatives is a rather meagre offer. In the kind of hierarchical decision-making structure which characterizes most of our societal systems, the opportunity of being vaguely represented at some level high up in the hierarchy does not provide individuals with much feeling of control. The inherent rules of the hierarchy itself seem to absorb most effects of such representation, as seen from the point of view of the individuals represented. Clearly, participation must have a meaning beyond this.

The local sphere of activity in which the individual pupil, student,
teacher, etc., takes part, is essential to his feeling of personal satisfaction and success, or humiliation and failure. One must assume that participation would mean some element of control of the immediate circumstances creating such effects. For each person involved in an activity, there must be some rewards, some freedom of choice, some possibilities for learning and personal development and for emotional interaction with others. We suggest that participation should at least mean some ability to influence conditions that determine such opportunities.

This presupposes, however, that decisions concerning such conditions are actually taken in the environment within reach of the individual. Consequently, increased participation cannot only be looked at from the point of view of representation at various levels within an existing decision-making hierarchy. The location of such decisions within the hierarchy must be brought into the discussion.

This leads to the conclusion that a precondition for participation in this sense is the existence within organizations of ‘local’ groups with a certain amount of autonomy.

Membership in such a group does not, however, by itself secure individual participation in the sense indicated above. We need to go more deeply into the conditions under which an element of ‘local’ autonomy can be assumed to have real effect on participation.

**Conditions for participation**

The conditions under which delegation of formal decisions to ‘local’ units can be assumed to lead to increased participation of individuals, can be summed up in the five points below. They are in principle valid for all delegation of formal decision-making responsibilities from a higher to a lower level within a decision-making hierarchy; they are also valid in other hierarchical systems than education, though in the following we shall use examples from the latter.

The educational system is an ‘open’ system in constant interaction with other societal systems. General goals served by educational policies are also at the same time served by policies in other fields. Correspondingly, most goals served by policies in other fields are influenced by educational policies.

Consequently, the educational system is under constant pressure from strong interest groups outside the system. Educational policies consist to a great extent of a weighing of different interests, and the
whole notion of ‘an educational policy’ is based on the assumption that it is more than a mere reflection of the existing power structure elsewhere in society. A certain amount of autonomy for the educational system presupposes, however, that a number of important decisions are taken centrally for the system as a whole. Extreme autonomy within the system at the ‘local’ level will tend to make individual units defenceless against predominant local interests or strong, countrywide pressure groups representing professional, economic, or ideological interests.

We may thus formulate as a first condition for participation that increased ‘local’ autonomy within the educational system must not reduce the possibilities of the system as a whole to defend its individual units against external pressures.

Real autonomy at the ‘local’ level implies that local decisions do not lead to sanctions from higher levels in the decision-making hierarchy. Elements of autonomy in decisions by students must not be threatened by sanctions from teachers in other areas where the teachers still exert prescriptive authority. The autonomy of an individual school may easily become fictitious if there exist extensive possibilities for appeal to higher instances. ‘Local’ autonomy must, therefore, be shielded against ‘spill over’ from prescriptive authority maintained at higher levels. We can thus formulate our second set of conditions.

Prescriptive authority left at higher levels in a decision-making hierarchy must not be used to influence decisions formally delegated to local units.

Local school authorities, individual schools, teachers, classes or pupils will be strongly dependent upon what other units at the same level do. Formal freedom of choice may in fact be strictly limited by actual choices made by others. Such interdependence is not necessarily mutual. Individual units may in their decision be completely dominated by other units belonging to the same level in the decision-making hierarchy. This may be equally true for individual pupils in relation to other pupils, as for whole institutions or even major parts of the educational system. ‘Pecking orders’ are well known all over the educational system. As our third set of conditions we can thus state:

Participation presupposes certain limitations to the interdependence of units at the same level, or a certain equality of ‘bargaining power’ of individual units.
'Local' units with a certain amount of autonomy tend to develop an interior authority structure which may offer quite unequal positions of authority to individual members of the unit. Autonomous school units with decision-making power firmly located with the headmaster, or with the teaching corps, may serve as an example, as well as the power structure among the pupils within a class. We may thus formulate our fourth set of conditions for participation.

'Local' units must offer opportunities for general participation in decision-making for all members.

Opportunities for participation in decisions are not always being used. Lack of training and uncertainty about one's own competence may keep many members passive. Lack of participation in decisions can also stem from the feeling that the decisions in question lack significance, or that attitudes within the group are too homogeneous for it to matter who makes decisions. This leads to the fifth set of conditions for participation.

Autonomy must imply decisions regarded as significant by those concerned, and the decisions must at least potentially be controversial.

We have outlined a number of conditions under which increased autonomy at the 'local' level in an educational system may be assumed to increase individual participation. It emerges clearly that such conditions cannot or should not always be fulfilled within an educational system. Increased 'local' autonomy is thus no generally applicable prescription for more participation.

The risks are fairly obvious. Autonomous school units are likely to be easy prey for predominant forces outside the school system. Authority exerted vertically within a hierarchical system is likely to spill over into areas of formally decentralized decisions. Mobility between parts of the system, and demand for generally valid evaluation, causes considerable interdependence, and prestige hierarchies among formally equal units do tend to develop. Internal authority structures within local units may imply strict regulations of individual behaviour, which again may be accepted because 'the things that matter cannot be changed', or because one trusts others to make the decisions.

Interesting in this respect is also the built-in stability of most hierarchical decision-making structures. Individuals in local positions of authority do not always look forward to a situation involving more real choices in decision-making. It means real responsibility for decisions,
including the need to defend them against others at the 'local' level, and potentially even the loss of the local authority position. Authority at the local level will have to mean something different from the kind of authority that relies upon vertical contacts upwards in a hierarchical system. No wonder increased 'local' autonomy appears as a threat to many of those in local authority positions within such a system.

One should also avoid the misunderstanding that increased freedom of choice for individuals automatically leads to a higher level of manifest satisfaction. Satisfaction is only partly related to an individual's 'objective' situation. It may primarily be a function of his awareness of alternatives, and his perception of their realism. When changes are introduced in schools, and in particular in its organizational structure, the awareness of possible alternatives, and especially the perception of their realism, tend to rise rapidly among students and teachers. A change, 'objectively' improving conditions, may, therefore, easily cause a drop in manifest satisfaction.

This phenomenon is frequently observed in connexion with changes leading to more participation by groups traditionally kept out of real influence. Participation is, therefore, hardly an effective means of moderating expressions of disenchantment within schools in a situation of ad hoc crisis. On the other hand, evidence seems to support that an established pattern of participation may prevent a situation of crisis from occurring.

It should be noted that many of the conditions necessary for participation in autonomous local groups also apply to individuals. Greater formal opportunity for choice for individuals, be it student or teacher, can be provided through more options in the school system, individualized instruction, varied curriculum packages for use by teachers, etc. Even disregarding the likelihood that such options will, in fact, reflect exactly the same value structures, and be oriented towards the biggest buyers in the market, the autonomy of the individual in relation to whatever real choices exist may be doubtful indeed.

He will certainly be surrounded by predominant forces with very specific expectations as to his choice. He will still be within a partly hierarchical system, which may reward or punish him indirectly for the choice he makes. He may, in fact, look primarily at choices made by other individuals in a similar situation. And he may be in a position where the choice really does not matter, where his 'autonomy' does not include choices felt as significant to him.

We find a close parallel to the issue of 'the free choice of the
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consumer'. In addition to the well-known limitations to such 'freedom', the educational system abounds with *de facto* monopolies. Furthermore, while consumers have mostly the chance of trying different products, a student will usually discover the actual consequences of his choice only when it is too late.

We are faced with the dilemma that, on the one hand, 'local' autonomy appears necessary for real participation in decision-making. On the other hand, such participation is by no means ensured by delegation of decision-making power to 'local' levels alone. Arrangements for representation at higher decision-making levels, and delegation of decision-making power to lower levels, providing for 'local' autonomy, may be part of an answer to the quest for participation. None of these remedies, however, provides a full answer. We shall have to take a closer look at the problems involved.

**Who should participate?**

In our educational systems there are at present certain tendencies towards changes in the decision-making structure. Apparently, however, those tendencies are diverging, pointing towards quite different future *scenarios* for educational decision-making. Roughly, current tendencies might be grouped in four directions.

One direction might be characterized by the term 'programming'. Efforts are made to define specific operational objectives for the educational process and its various components. Instruction is then programmed so as to maximize the achievements of such objectives according to feed-back from the process itself.

The forms of instruction must, however, be adapted to the situation of the individual student. Alternative forms can be developed and applied according to the teacher's evaluation of the requirements of each student. Alternative programmes can also be offered as a choice to individual students.

Finally, programmes can prescribe what type of student shall have what kind of programme. Observations needed for feed-back are also prescribed and decide the kind of programme to be utilized.

The different versions of programmed instruction can thus offer certain options to the students or to the teachers, and provide the existence of a 'market' for instruction programmes, even to schools or school systems. But the programming can also be carried far enough to leave all important decisions to those formulating the programmes.
A complication connected with programmed instruction is that programmes can serve only one or a few objectives, most frequently related to transmission of factual knowledge and intellectual achievements. To the extent education has other objectives, the effect of programmed instruction upon them is really unknown. The ‘efficiency’ aimed at in such programmes is only valid with reference to their specified objectives, and the relative weighting of those objectives are built into the programme. Those who use them have normally no means of achieving what for them would be a desirable set of objectives or relative emphasis upon the objectives involved.

The ‘accountability’ often associated with such programmes does only relate to their stated objectives leaving other effects unknown. Bearing in mind recent experiences in the context of technological development, one may question whether such ‘accountability’ is not in fact a case of grave irresponsibility.

Although programming of this kind may in principle leave certain decisions to students or to teachers, the main trend towards more extensive programming seems to involve a shift in the power structure towards ‘experts’ within or outside the educational system, and to external forces specifying the desirable characteristics of the various products from that system. A tendency towards such a shift in the educational decision-making structure is clearly visible in certain countries, and its further development must be regarded as one of the main alternatives for future directions in this field.

A considerable degree of autonomy for individual schools is practised in a number of countries. Such autonomy may result in major variations between individual schools, especially when their activities are not governed by a general system of external evaluation. The variations may relate to curriculum as well as to teaching methods, and the options open to individual schools may release considerable initiative among teachers.

Students in such schools do not necessarily have more options than students in schools with more external governance. The education offered may be more biased, both in terms of subjects and values. The justification for external governance is often just to prevent excessively one-sided pressures upon students in their local school milieu. School autonomy of this kind may also lead to a qualitative and/or prestige based ranking of schools. Those regarded as the best, attract the best-qualified teachers and students, and the differences between schools tend to become permanent or even increase. Equality objectives in educational policies can hardly be achieved under such
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circumstances, and to the extent the choice of schools has decisive effects upon future careers, such a school system may enhance societal inequality.

A decision-making structure of this kind tends to leave the main decision-making power with teachers and other professional groups directly associated with the school. The functioning of the system will depend upon the existence of a unifying set of values for the professional groups involved. If such a common professional value structure exists, it may lead to as strong limitations upon individual teacher initiative as strict external governance.

In several countries there exist examples of school institutions which define their task primarily as being an integrated part of their local environment. Their services are offered not only to children at a certain age, but to all members of the local community, and such services may include much more than regular teaching. Professional guidance, social work, spare-time activities, cultural efforts, etc., can form important parts of the programmes offered.

At the same time, such schools tend to engage as contributors in their activities a significant part of the members of the local community, according to their special qualifications. Instruction and leadership of various activities are often left to persons who are not professional teachers. School activities are not restricted to certain times of the day, the school acts as an open service centre.

Such school units tend to become dominated by persons and groups in the local community outside the school itself. Parents and local leaders will exert strong influence. This implies, however, that such a school becomes very dependent upon the resources a local community can offer. Standards in different schools will vary strongly. If school achievement acts as the main criterion for selection to social positions in society, the results can be rather discriminatory towards youth from different local communities.

Teachers in such schools may find opportunities for initiative in new fields. Their options may, however, be strongly limited by attitudes dominating the local community. This will be even more true for the students. The wish to preserve values cherished in the local community can lead to an effective isolation of children from external impulses which might have offered real possibilities of choice.

An educational institution will in any case be of major importance for its social environment, and the interplay between the school and the local community will always be a central issue in educational policy. A tendency towards the development of locally integrated
school units must, therefore, be regarded as one of the possible directions for future development.

In most countries, and at various levels in the educational system, the question of student participation in decisions concerning their own school situation, has become a live issue in recent years. Various forms of student representation are being tried out, as well as forms of instruction which permit more influence by students upon their immediate learning situation. Most of those experiments are built on the assumption that problems within the school can best be solved by bringing representatives of various groups together for joint decision-making.

There exist also some examples of schools practising real student governance. In such cases the students cannot only choose between different subjects and pedagogical approaches offered by the school but also take an active part in the development of such approaches. The teacher becomes primarily a resource person aiding the students in achieving objectives set by themselves. His authority will rest solely on his professional competence and other personal qualifications, he has no means of enforcing his will through sanctions towards the students.

The functioning of such forms of 'school democracy' clearly depends upon the age of the students. Most practical examples can be found in adult education, where the students know fairly well what they expect from the school, and have a low level of tolerance towards anything else. Frequently, in this case, the students will possess jointly more knowledge of the subject than any teacher, and a constructive learning situation depends upon the extent to which use is made of the student's own experience.

There are only few examples of genuine student governance at the university level and the levels below. Yet, there is some evidence that extensive student governance can function at such levels too. Even in primary education, scattered experiments indicate that pupils can participate actively in quite far-reaching decisions about their own learning situation.

As compared to other models for educational decision-making, a high degree of student governance presupposes first of all a very different authority relationship between teachers and students. Such forms of 'school democracy' may cause considerable differences between individual schools as regards the contents and methods of education. The danger of prestige-based institutional ranking appears less, however, in a system with student-governed schools than in sys-
tems with predominant teacher governance or extensive integration into local communities.

Normally, one would expect student governance to provide more options for individual students. This is not necessarily the case. Even within the student group, some students may exert dominance over others. Like any other form of formal democracy, such an organizational structure is in itself no guarantee against group pressure towards the individual.

The four directions of development in the educational decision-making structure indicated above, point towards rather different scenarios for the future educational system. The actual development in this respect will, of course, be strongly dependent upon corresponding developments in society at large. There is, however, a danger in confronting ‘ideal’ models of future systems. The elements of such models are not necessarily mutually exclusive, and the future most likely will show some elements from each of them.

Yet, to the extent such models imply the predominant location of decision-making power with specific groups of actors, one is definitely faced with a choice. One cannot operate with a harmony model based on the assumption that all actors will agree, provided they get to know each other’s views. It makes a substantial difference whether decision-making power is primarily vested in external groups of ‘experts’ or ‘users’, in teachers, in predominant forces in the local community or in students and pupils. Decisions affecting the distribution of authority between such groups are likely to decide the nature of future school systems.

Such choices cannot be made according to notions of ‘efficiency’ within the system, as different solutions serve different objectives. The choice is clearly political, based on what value-structures one wants to promote. ‘Expert’ advice on such issues serves only one purpose, to promote the relative power-position of ‘experts’ in relation to other actors.

**Vertical and horizontal exploitation**

The preceding analysis leads us back to the ideological or moral basis for the demand for participation. The claim that each individual should have some control over his own fate, may possibly be interpreted as the absence of exploitation by others.

The concept of ‘exploitation’, however, is not an easy one to
handle. It implies that an individual is being used as an instrument for the purposes of others. Yet, only if we reason in terms of an absolute conflict model will human interaction take the form of a zero-sum game, where no one can win unless somebody else loses. If we assume a certain minimum of common interest between actors, an interaction may lead to some net gain, which at least in principle offers the possibility of benefits to all interacting parties.¹

A more general definition of exploitation links it to the relative power-position of the actors. Exploitation occurs if an interaction tends to increase the difference between those with many and those with few resources (in the widest possible meaning).² The trouble with such definitions is that they presuppose a one-dimensional scale according to which the actors can be ranked. Or, to put it another way, it presupposes that individual resources can be summed up according to a generally accepted scale of values.³ There is thus hardly any way in which such a concept of exploitation (or structural violence) can convey the same meaning to everybody. Its meaning to each individual will be a function of his own value structure.

There can be no doubt that all educational systems practise the use of students and pupils as instruments for purposes other than their own. They are value indoctrinated, stuffed with factual knowledge the purpose of which they do not see, drilled in behaviours which they would not voluntarily adopt, etc. The apparent justification of this is that it is 'for their own good'. They will succeed better in life when yielding to such treatment, either from the temptation of rewards or fear of sanctions.

This means, however, that if we view education as a form of human interaction, the results of the process are measured only in terms of the value-structure of some of the actors, and not that of other actors.

It is possible, however, to see the educational process as a means by which a relatively constant sum of 'success in life' is distributed between individuals. In this case the total result of the process is decided by the value attached to the success of the winners as compared to the misery of the losers. Judged by values to which most of us pay at least lip-service, the process may then be viewed

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¹ This is why the concept of exploitation in revolutionary ideologies has a relatively clear meaning only as long as the revolution itself is the predominant goal.
² Such a definition of exploitation is closely related to definitions of 'structural violence'.
³ An illustration may be the difference between an aggregate such as the GNP, and various aggregate measures of 'quality of life'.

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as a major case of manipulation, a case of genuine exploitation.\(^1\)

As pointed out before, individual participation is not only limited through the exertion of directive authority downwards within a hierarchical system. Dependence upon other individuals or units at the same hierarchical level may be asymmetric. Bargaining power on behalf of own interests is not equally distributed between individuals or units at the same level.

Such horizontal forms of exploitation offer the same problems of definitions as we have discussed above. We have no 'objective' scale of measure according to which we can judge the benefits or losses from horizontal interactions. However, in this case also we can identify cases in which one party is able to impose its own value-structure upon another party as a measure of the outcome of an interaction process.

More or less officially recognized status hierarchies between individuals and institutions are cases in point. Specific definitions of the concept of 'quality' are often instrumental in this context. Individuals in powerful status positions impose their quality standards upon the performance of others with weaker status. Prestigious parts of the educational systems, such as, for example, the universities, impose their quality standards as performance measures for lower levels in the educational system. Prestigious institutions play the same role in relation to institutions with weaker status.

We thus end up with the conclusion that although the concept of exploitation can hardly be given an 'objective' transferable meaning, we may still be able to identify cases when exploitation occurs. The ability to have one's own standards of performance or quality generally accepted as valid also for the performance of others is a useful yard-stick for this purpose. Whether 'exploitation' is a good or a bad thing is then still an open question, but so is the question of the value of 'participation'.

Whatever we might feel on this point, however, it may not be the decisive factor in future developments. When previously we have talked about 'choosing' various models for the future decision-making structure in education, the choice is in fact going to be made by actors in this process themselves. Defining the 'true interests' of others may be a popular sport, both among 'experts' and 'users', as well as among

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\(^1\) This would not necessarily be true, however, if the process can be assumed to increase the total 'sum of success' through the general contribution of education to societal progress. Again, however, the notion of progress can only be meaningful in relation to some specific value structure.
planners and ideologists. Yet, the decisive factor may be the 'voting with their feet' of the various actors themselves.

The near monopoly of the educational system in allocating individuals to social positions is not a very stable one today. We may be moving towards a situation in which the rewards and sanctions provided by the educational system appear less tempting and less frightening to young people. They may gradually find other means of achieving whatever they want. As yet we have not, by far, seen the consequences of our recently acquired state of information affluence.

To the extent such developments are part of our future—they are already easily discernible today—decision-making structures within education may change in directions which politicians can do little more than adapt to. Provided, of course, that they would like to see the educational system kept out of museums.

**Participatory planning**

Planning is supposed to provide important premises for decisions. It is an essential part of the total decision-making process. The definition of a planning function can, in fact, be meaningful only in relation to a given decision-making structure.

Within a hierarchical organization planning will consist primarily of various forms of consistency control. Consistency of decisions and implementation over time must be ensured. Assumptions underlying actual operations must be consistent with available factual information. The horizontal interdependencies between operating units also calls for consistency control. And, finally, behaviour all through the organization should be consistent with the organization’s central goal structure.

Within hierarchical organizations, planning tends to become a speciality monopolized by professional ‘planners’, often grouped together in a separate agency for planning. Whatever its formal position within the hierarchy, such a planning agency tends to become an auxiliary body to superior co-ordinating bodies. Quite often its main function consists of the evaluation and screening of proposals emerging from operational branches. In the decision-making process they are drawn towards a location between operational units and the ‘political’ leadership. Their true function becomes advocacy of specific policies and control of their implementation.

If participation in decision-making is to be taken seriously, this
will, obviously, profoundly affect the organization of planning. Any change of the power structure within a system is bound to influence the way in which the planning function is performed. Otherwise, a change in the power structure would hardly be real.

If participation means some representation of new groups at strategic levels of an otherwise maintained hierarchical system, some changes in organizational objectives may occur, which again will have their impact on planning. Beyond this, one might establish certain direct links between ‘expert’ planners and the new groups represented. One might for instance arrange discussions and interviews with representatives of such groups, or establish more permanent ‘advisory’ bodies to the planning agency with formal representation of various interested parties.

Provided the hierarchical organization of the system is maintained, this means in effect that the planning agency establishes itself as a ‘second centre’ of decision-making. The underlying assumption must be that representation in bodies formally entrusted with responsibility for decisions is not enough to bring planning in line with the resulting changes in the organization’s general goal structure. It may strengthen the influence of various interest groups upon the functioning of the system. However, it is at least as likely that direct channels between planning agencies and represented groups are being used as a consensus-creating mechanism, to reduce potential frictions and increase the acceptance of centrally defined objectives of the system. Whatever the case, the effect is likely to be that planning activities tend to strengthen the relative power position of the top levels of the hierarchy, and at the same time enhance the possibilities of exerting directive authority—disguised as ‘expert advice’—by the planning agency itself.

‘Participatory’ planning under such circumstances can also take other forms. Surveys of preferences within various groups may form a basis for planning work, which can then be said to be based on wide contact with the ‘grass roots’. One may even go as far as to predict ‘value dynamics’ as assumptions underlying long-term development plans.

The snag here is twofold. First, the weighting of preferences expressed by different groups rests with the planners, and leaves nearly limitless possibilities for interpretation. Second, preference scales are meaningless per se. They only have meaning in relation to some usually implicit frame of reference, based upon the individual’s perception of realistic alternatives. Surveys of preferences usually
only relate preference statements to the surveyor’s own frame of reference which is in fact the only way such statements can be aggregated; the result being that such aggregates usually mean very little.

It appears that most forms of ‘participatory’ planning within a hierarchical structure are bound primarily to result in a strengthening of the power position of professional planners. They establish an alternative decision-making structure to that of the formal organization, which strengthens their position in relation to the formal leaders of the organization. This might be viewed as a desirable development in a situation where democratic political processes function imperfectly. Whether the technocratic features of such an alternative solution represent an improvement is a very open question.

Participation in the sense we have used the term here inevitably requires a profoundly different definition of the planning function. Planning is inherently linked to decisions and must occur where real decisions are made. Participation thus means that planning cannot be a monopoly for a group of specialists or of specialized agencies, it must be performed by all groups and individuals participating in decisions.

The prime function of planning specialists or planning agencies in this case must be to aid the development of a planning function in all parts of a system. The task will not be to monopolize or control the planning function, but to serve others in their exertion of it.

The only way this can happen is when planners abstain from any formal or real position of prescriptive authority over others within a system. Control and screening functions must be abandoned. Their interactions with other units within the system must be predominantly horizontal, and they should not use their vertical contacts upwards in the organization in order to enforce their views upon other units.

If our belief in planning is justified, we must assume that planners will still exert authority based on their professional competence. But this authority must be purely informative, without the use of rewards and sanctions. The function of planners within the system must be non-exploitative.

We have arrived at the definition of the special role of planners which is basically a pedagogical one. It corresponds to the role of the teacher in a student-governed school, where the teacher aids the students in their search for their own solutions to problems, and where he is not in a position to impose his own value-structure or performance scales upon them.

Such a role for planners in promoting a general planning function
within a system has many implications. One of them stems from the obvious incompatibility between such a role and the current fashion of magic in planning. So called 'planning techniques' are today one of the most effective means planners use to establish a position which permits the provision of apparently professional answers to political questions. Such techniques exclude the planners' clients from any real understanding of the implications of the planners' advice. Of current 'techniques' or 'approaches' offered in planning, there are hardly any which do not contain a wide range of built-in value assumptions, well hidden from any questioning by clients.

We may be faced, as planners, with the claim that it is for us to bring out such implicit value assumptions in a way that is truly understood by those we serve. We may have to abandon most of our professional jargon, which in any case mostly covers rather banal oversimplifications of reality. Real participation will mean that other actors within a system simply refuse to listen to 'expert advice' which they do not fully understand.

Will such a role in fact do away with most of the planning function? In all likelihood, this would be true for a fair proportion of what we call planning today, the part which mainly serves the purpose of providing planners with a basis for prescriptive authority. This may be a precondition, however, for a socially more valuable planning function to develop. It might provide planning with a chance to become the essential critical function, which most of our systems certainly need.

Refusing to accept this means more than rejecting a certain role for planners. Such an attitude means, for instance, rejecting the value of education except as an accidental means to achieve certain rewards. It also means rejecting participation in any kind of system in the sense the concept has been used in these pages.
Prospects of the third educational reform in Japan

In July 1967 the Central Council for Education, of which the author had the honour to be the president, was requested by the Minister of Education to define and develop basic policy measures for general expansion and improvement of school education, and after four years' deliberation it submitted to the minister in June 1971 a report entitled *Basic Guidelines for Educational Reform*.

The report is an epoch-making document containing basic ideas and proposals for the over-all reform of school education in Japan. The reform proposed is widely referred to as the ‘third educational reform’, following the first reform in 1872, and the second reform in 1947. The third reform is not only significant in the context of the world-wide trend of educational development, but it is also worthy of special attention in that it is taking place in Japan, a non-Western country situated in East Asia.

The council analysed and evaluated the educational practices and achievements during the past hundred years since the early Meiji era in order to identify the problems involved, and on the basis of its findings presented certain central problems to be solved for restructuring Japanese education for the future, indicating at the same time the direction to be taken in solving these problems. The council also examined a range of administrative and financial measures that the government should take for successful implementation of a comprehensive plan for the expansion and improvement of school education as a whole.

Although the author was involved from the beginning to the end in the work of the council as president, what he writes in the present article is neither an official commentary on the part of the council nor the official views of the educational authorities responsible for implementing the reform, but it is mostly the personal opinions and views of the author.
The first two educational reforms

The year 1972 marked the ‘Centenary of the Education System’, and the inauguration of the first educational reform, four years after the Meiji Restoration, which marked the turning point in the modernization of this country.

The first reform was aimed at the equalization of educational opportunity and the conversion from abstract to pragmatic education. The new education system followed the French example, while the educational content and praxis was largely influenced by the American example. The education system first adopted in Japan comprised, as in France, three levels of education: primary, secondary and higher education. On the other hand, the Ministry of Education invited an American educator to teach at a newly established normal school so that teaching methods in American primary schools might be introduced into this country. It also employed an American specialist as consultant to put the new system into operation.

Three-quarters of a century after the first educational reform was initiated, Japan undertook the second educational reform, which was carried out immediately after the termination of the Pacific War.

The salient features of the reform were: (a) In place of the Imperial Rescript on Education, which had long provided the guiding principles for education in Japan, the Fundamental Law of Education was laid down in accordance with the universal principles of mankind. (b) The board of education system was introduced and the autonomy of the university was expanded in order to remedy the extremely centralized rule of education by the Ministry of Education. (c) The single-tracked 6–3–3–4 year school system was inaugurated to ensure equality of educational opportunity, with compulsory education extended from six to nine years and educational discrimination largely removed or minimized. (d) The educational approach was changed from the textbook-centred method of knowledge cramming to self-study and self-learning approach, while the state monopoly of textbook production was abolished in favour of a State authorization system. (e) All schools, government, municipal and private, are treated equally without distinction. (f) Parent-teacher associations, professional teacher organizations, and student bodies were given freedom of activity. (g) Out-of-school education, with adult education as its central activity, acquired high importance and emphasis. (h) Unesco activities for promoting education for international understanding and co-operation were introduced into school education.
It was formulated on the initiative of the occupation forces and carried out under their authority and guidance in the years immediately following the defeat of Japan. If, however, an education system is to succeed, it must be in accord with the history, traditions and national realities of a given country; the big differences between Japan and the United States constituted critical problems in the educational reform.

A significant example is the uncompromising enforcement of decentralization, which the occupation authorities considered essential to democracy. The occupation authorities not only recommended the adoption of the (American) board of education system for democratizing education, but they went so far as to force the Japanese Government, in spite of its strong opposition, to put it into operation. This system was derived from the special conditions under which the United States was founded. That is to say, it came into being spontaneously in various parts of the country so that different racial groups which had emigrated from various countries in the Old World could provide an education for their children. It is a unique system which finds no example even in Europe. In sharp contrast to the United States, however, Japan became a modern State by dismantling the feudal clans and establishing a strong centralized government in their place.

As in the case of democracy in the Meiji Restoration, it seems accurate to say that the post-war democracy, including the democratic system of education, was not generated by a grass-roots movement, but promoted by the active initiative and endeavour of the centralized government to meet the needs of new times.

**Defects common to the two previous reforms**

The first two reforms were undertaken with the objective of constructing a new Japan viable in the international community. In this sense, they were significant not merely as educational reforms, but also as broader cultural revolutions.

From the limited viewpoint of educational reform, three defects are common to the two reforms: (a) Since these reforms were carried out rather suddenly as an integral part of political revolution and therefore often by the force of the government, educational problems did not receive due consideration from an intrinsically educational standpoint. (b) Since both were designed after the model of
Prospects of the third educational reform in Japan

Western—in the case of the second reform, American—thought and institutions and put into practice rather hastily, the traditions of the Japanese nation were necessarily more or less neglected, and some of them even met with hostility. (c) Since the educational reforms largely aimed at the introduction of foreign systems, they tended to be so abstract and theoretical that insufficient consideration was given to the realities and conditions where the actual education was to take place.

The third educational reform

In the quarter of a century since the second educational reform, both the national and international situations have witnessed rapid and profound changes of immense magnitude. Such changes called urgently for another drastic educational reform.

Basic Principles

The report of the council clearly states that the aim of education is the full development of personality. What should personality development comprise in the country’s changing environment? In this regard, the report points to the necessity of conceiving man as an integrated organic being having the following aspects: (a) a being living in the natural world; (b) a being living a social life; and (c) a self-conscious being actively pursuing cultural development.

For the educational reform to be undertaken, the council adopted three basic principles. The first principle is the concept of lifelong education, by which the existing educational system should be generally re-examined to meet the needs of rapidly changing society. This concept of lifelong education recently brought into the limelight by Unesco is now receiving general acceptance in world educational circles.

Apart from the academic definition, lifelong education means a new integrated system of education which continues throughout the whole span of life, in the home, in the school, in the community. Home education, school education, and community education have their respective aims and functions, and they are complementary to each other. Of these three, school education is characterized as "guaranteeing institutionally a programme of learning based on an educational plan for young people of prescribed ages, comprising a special school
society with comparatively homogeneous groups of students of the same age, and enabling them to pursue the learning of academic and general matters without being overly influenced directly by vocations and other social matters. Under the concept of lifelong education, school education is strongly required not to be confined within itself but to develop broad insight and effective learning ability in students so that they will be prepared for home education and social education.

The second principle is concerned with considerations inherent in education itself. As touched upon in earlier paragraphs, the first and second education reforms were governed by the overriding objective of following Western ideas and institutions and catching up with them within the shortest possible time. Today, however, when it is well known that Japanese civilization has evolved almost to the same level of Western civilization, and when it is evidently felt that Western civilization is presenting a dangerous threat to nature and mankind, there is a good reason to desire a new civilization to be founded with renewed reflection on Oriental cultures. It is the author's cherished belief that education in Japan, which is located in East Asia and maintains many of the traditions of Oriental cultures, should play an important role to meet this desire.

The third is the procedural principle of experimental pilot projects. Unlike the two previous reforms, which were an integral part of political revolution, the third educational reform is to be conceived and carried out from the educational standpoint. Therefore the present fundamental reform should not be achieved by a dramatic transformation but by a gradual change supported by a series of careful studies, experiments, and appraisals. In the report are proposed a number of experimental pilot projects for the reform of education at the primary and secondary levels, which represent this gradual and cautious approach. These projects are designed to develop new patterns of school education which are to provide the foundation of the future reform of the educational system as a whole. While practical improvement is being attempted in regard to the current 6–3–3 year school system, exceptional practices are legally allowed so that certain ideas of educational reform with sufficient scientific justification may be put into experimental practice and fully studied and appraised in experimental pilot projects. The time needed for completing these pilot projects is expected to be about ten years. It is strongly desirable for the areas and schools for pilot projects to be properly selected in respect to quantity and quality.

The report recommends, at the same time, that an educational
research and development centre be created so that educational researchers, classroom teachers, and educational administrators may join their efforts in carrying out in an integrated and intensive way the necessary research for designing a suitable educational programme and ensuring proper implementation of the experimental pilot projects.

**MAIN DIRECTIONS**

It has been pointed out that, as the modernization of Japan was Westernization, so the first and second educational reforms consisted of the transplantation of Western educational thought and institutions. The third educational reform, however, has done away with this ‘follow-the-West’ pattern, but without changing the fundamental direction of democratization and rationalization which characterize Western civilization.

With the rapid progress of science and technology and the enormous social transformation brought about by it, modern society postulates the rationalization of both individual and society, or a high degree of planning and control to achieve greater efficiency, and therefore demands highly organized machinery and a suitable pattern of life to realize this rationalization. The two postulates of rationalization and democratization are not always in harmony with one another. Sometimes they become incompatible and even bitterly opposed to one another. This phenomenon is observed in industrial circles today, but more conspicuously in educational circles.

What is most important in introducing Western civilization is the problem of ‘acclimatization’, or adjustment to the moral traditions and social conditions of Japan. During the period of ‘civilization and enlightenment’ in the early years of the Meiji era, ‘Japanese soul with Western knowledge and techniques’ became a widely used catchphrase. This was a warning against the possibility that the Japanese people might be turned into Western people through the adoption of Western civilization. It was stressed that, while importing Western culture, the Japanese people should maintain their identity.

In any case, when we introduce Western things into this country, what is important is to chew, digest and absorb them so well that they may become a nutriment to nourish the Japanese people. It should by no means become a dangerous threat against health and life of the nation. As any civilization is the product of a given spiritual and material environment, it is only natural that the hasty introduction
of aspects of foreign civilization which have developed in an entirely different climate should produce an unsatisfactory result.

GUIDELINES AND OBJECTIVES

Following the fundamental principles and the fundamental directions described above, the Central Council for Education formulated the basic guidelines and objectives of the third educational reform both for primary, secondary and for higher education.

For the reform of primary and secondary education, the following ten objectives were enumerated: (a) development of a school system capable of adapting to the needs of students at different stages of human growth; (b) reform of the curricula in accordance with the characteristics of each school level; (c) improvement of student guidance for the selection of the best courses by each student; (d) improvement of educational method and techniques to develop fully the abilities and interests of individual students; (e) maintenance and improvement of the qualitative standards of public education and equality of educational opportunity; (f) positive expansion and improvement of kindergarten education; (g) positive expansion and improvement of special education for the handicapped; (h) improvement of the structure of management within schools and the machinery of educational administration; (i) training and recruitment of teachers and improvement of the status of teachers; and (j) promotion of research and development for educational reform.

For the reform of higher education, it was considered the most central challenge to remedy the current situation, in which the traditional concepts and structures of higher education have proved incapable of adequately meeting the demands of an increasingly widely popularized higher education and a highly complex society, which are composed of various and often conflicting elements. For this purpose objectives were established for the following areas of action: (a) diversification of higher education; (b) improvement of the curriculum; (c) improvement of teaching methods and techniques; (d) opening of higher education to the public and establishment of a system of certification; (e) organizational separation of teaching and research functions; (f) creation of a 'research centre comparable to doctor course of graduate school' for higher-level research and training; (g) establishment of an optimum size for higher institutions and the rationalization of administrative and managerial organization; (h) improvement of the employment conditions of teachers; (i) solu-
tion of problems arising out of the establishment procedures of national and public universities; (j) improvement of the system of government financial assistance, the system of cost-bearing by beneficiaries, and the scholarship and fellowship system for higher education; (k) planned co-ordination by the national government for the improvement of higher education; (l) improvement of the student environment; and (m) improvement of student selection procedures.

To realize these objectives, the report emphasizes the necessity of establishing and carrying out a long-range educational plan, and places importance on the role of the government in doing so. It also points out the importance of future projections as the basis for planning and presents provisional quantitative estimates of the relevant factors. Among others, it gives estimates of the total educational investment for carrying out the third educational reform as recommended, which amount to 13,100,000 million yen in 1980 (i.e. 6.28 per cent of the GNP), as compared with 3,100,000 million yen in 1971 (i.e. 4.8 per cent of the GNP).

Personal comments on the reform

In the preceding paragraphs, an over-all summary of the basic guidelines and policy measures has been given. Now the author would like to make some personal comments to clarify certain problems involved.

The third educational reform, which is aimed at a thorough democratization of education, is naturally designed in the first place to achieve the equalization of educational opportunity.

In Japan, enrolment at primary and junior high schools, which is compulsory, stands at 99.8 per cent, that of senior high schools at 85.0 per cent, and that of higher education at 29.2 per cent. As far as these figures are concerned, equal opportunity in education has already been realized to a remarkable degree. On the other hand, however, there is a genuine demand for compulsory kindergarten education and senior secondary education. Improvement of education for the mentally and physically handicapped and a remedy for disparities in the cost of higher education are also strongly desired. In particular, the last item presents a serious problem to equal opportunity. For a private university student must pay his university eight times as much as a national or public university student.
addition to this, his parents bear the expenses of national or public universities in the form of taxes. The question of cost-bearing by beneficiaries again comes to the fore, together with the question of the scholarship system.

Besides the equalization of educational opportunity, democratic education requires diversification rather than uniformity of educational content and methods, as well as types of institutions, because it must deal with a diversity of abilities, aptitudes, and aspirations of individual students. On the other hand, however, some people are strongly against this kind of diversification because it introduces discrimination into education.

The question of planning and school administration is growing in importance. Whereas the rapid quantitative expansion and qualitative diversification of education necessitates a rapidly increased supply of human and material resources, the present supply falls considerably short of the demand. Under such circumstances, it is inevitable to take recourse to rationalization for more efficient operation. No doubt, education which is organized to develop human personality differs essentially from industry, which is organized to yield material products. However, education has become so conglomerated and complex that some form of planning and efficient organization for better productivity has become necessary.

Especially with the institutions of higher education, which number nearly one thousand and which tend to be more and more diversified, some form of over-all national planning of distribution, character, size, and content is necessary, as well as the improvement of the student-selection system, which is frequently referred to as ‘a cancer to education in Japan’. For the administration and management of primary and secondary education, which is continually growing in size, it is also deemed necessary to introduce an organization with distinction of the posts responsible for administrative matters, and to establish a stratified administrative machinery within each school, so that it may carry out active and orderly educational activities under the leadership and responsibility of its principal.

Unfortunately, however, attempts at this planning and efficient organization frequently meet strong opposition on the grounds of academic freedom and university autonomy in the case of higher education, and on the grounds of freedom in teaching and freedom in union activity in the case of primary and secondary education.

The primary aim of the reform is the development of human personality. However, reform undertaken by the government, by its
nature, necessarily places emphasis on the administrative and financial aspects of the educational system, with consequent lowered attention to the essential aspects of human development. Education for the development of human personality should not be education of ego-centric citizenship, nor cosmopolitan education not rooted in the race and the nation, but education of humans as social beings. In this regard, particular importance should be given to the home and the state.

With this in mind, the report described the aim of education 'as producing such Japanese as those who, having a broad tolerance for different values, can realize national identity on the basis of the principles of democratic society and national traditions, and who can contribute to the peace of the world and the welfare of mankind through the development of a uniquely distinct but universally acceptable culture'.

If the primary aim of education is the development of human personality, the role of the teacher, one of the two poles of human interaction in education, is extremely important. The systematization and mechanization of education have their own limits. It is easy to understand that the cause of the present educational crisis can be attributed mainly to the quantitative shortage and qualitative degrading of teachers.

In 1966, the Special Intergovernmental Conference of seventy-five Member States of Unesco adopted a Recommendation concerning the status of teachers, which was prepared jointly by Unesco and the International Labour Organisation (ILO). The Recommendation is a historical document in the effort to enhance the economic and social status of teachers to ensure the recruitment of a sufficient number of excellent teachers. It emphasizes the function of public service and the social and moral responsibility of the teaching profession by stating that 'teaching should be regarded as a profession: it is a form of public service which requires of teachers expert knowledge and specialized skills, acquired and maintained through rigorous and continuing study; it calls also for a sense of personal and corporate responsibility for the education and welfare of the pupils in their charge'.

Although teachers came to be trained at universities immediately after the end of the war, as in the case of other professions, the report of the council further recommends drastic improvement in the job classification system, salary scale, and other treatments, as well as improvement of the system of pre-service and in-service training of
teachers. It states that 'the same salary scale should apply to primary- and secondary-school teachers without distinction of level and type of school; their starting salary should be from 30 to 40 per cent higher than that of government officials; the salaries of university lecturers, associate professors, and professors should be high enough to attract capable men to be educators and researchers, and the scale should be revised in such a way that the highest salary of the scale may be reached at an earlier time; the highest salary of professors should be as much as the highest salary of government officials; teachers should be provided with other benefits in addition to an improved salary, such as study leave, housing assistance, tax privileges, etc.'.

In my view, however, what is most important for teachers is a deep sense of mission from which they carry out voluntary and creative educational activity with confidence and pride.

One of the striking features of the proposed educational reform is a long-range plan for implementation with an indication of a formula for future projection and provisional estimates of the necessary resources for the general expansion and improvement of education. This is indeed a pioneer and highly significant attempt in educational research in this country.

Of course, it must be borne in mind that, since the continual and rapid progress of science and technology will continue to produce substantial changes in industrial structure and the quantity and quality of people it demands, as well as in the value of money, foreign trade, prices, income, standard of living, gross national product, the present estimates will have to be modified accordingly. Caution also should be exercised against the tendency for such estimates to be biased in favour of quantifiable factors, often resulting in the neglect of mental and moral factors, which are the fundamental concern of education. Without this caution the estimates for a long-range plan will in some way or other be invalidated.

Reactions and attitudes

A typical evaluation of the recommendations contained in the report of the council appears in Reviews of National Policies for Education: Japan (OECD, Paris, 1971). In the following paragraphs, however, only reactions and attitudes in this country are dealt with, for the present paper concerns the problems relevant to the implementation of the recommendations in this country.
POLITICAL AND GOVERNEMENTAL CIRCLES

Since the third educational reform concerns mainly the school education system, the attitude of the government as a whole and, in particular, of the Ministry of Education directly responsible for implementation is of crucial importance. Fortunately, as soon as he received the recommendations from the council, the Minister of Education was determined to carry them out and took immediate action to accomplish a partial reorganization of the internal structure of the ministry, as well as to secure the necessary budgetary appropriation.

The proposed educational reform, which is so comprehensive and long ranged, is related to such questions as national land planning, local autonomy, and social welfare, etc. Above all, it involves an enormous expenditure of money, for which the active co-operation of the Finance Ministry is essential. In other words, the third educational reform should be adopted as a basic policy of the cabinet as a whole; the present cabinet has expressed its support of the reform, as did the previous one. It must be recognized that the realization of the reform will not be an easy task, since it requires an enormous amount of national expenditure and it is destined to compete with other highly expensive programmes such as national land planning, national defence, social welfare, and the prevention of environmental pollution.

EDUCATIONAL CIRCLES

Some people may have the impression that all-out opposition against the reform or determined confrontation with it is a general attitude prevailing in educational circles. It seems to the author that such an impression has been created largely by the influence of the mass media. According to the author's analysis, opposition to the recommendations can be classified into three types. The first is the attitude of stubbornly maintaining the status quo. A typical example is found in the case of the National Federation of Primary School Headmasters' Associations. It insists that there is no need at all to change the current six-year system of primary education because it has been maintained since the Meiji era.

The second is opposition for economic reasons. A typical example is the objection raised by private schools, especially private kindergartens, owned by individuals. In spite of a number of superficial
reasons, the real and most important reason for the opposition lies in the economic implications of the general levelling of public education and private education, which has the characteristics of business enterprise.

The third is opposition of an ideological and political nature. The largest teachers' union which organizes about half of primary- and secondary-school teachers, officially supports the Japan Socialist Party and is one of the most active members of leftist federation of trade unions 'Sohyo'. Through their activities, and other influences, tendency of opposition permeates school education. This opposition is displayed chiefly by advocates and followers of political and social revolutionism. Typical of this type of people are a group of intelligentsia called 'progressive men of culture', some labour union leaders, and neo-leftist students and young workers. Since they are anti-governmental and anti-establishment, they express fundamental and all-out opposition to the third educational reform, which in their view is aimed at the perpetualization of capitalistic institutions and the reinforcement of State control. The author has no intention to argue here about whether or not it is the right road to social reform to abolish capitalism and the State by revolution, but he sincerely hopes that they will present unbiased criticism after careful and objective consideration of the report, without bringing in prejudice of its content.

NATION-WIDE PUBLICITY

It is extremely difficult to assess exactly the degree to which the general public has a knowledge and understanding of the reform. Attending five of the open hearings organized in major regions of the country, the author had the impression that those who were entirely opposed constitute a very small minority, while a large majority of the participants in the hearings were rather in favour of the reform in its main lines. In addition, more than seventy organizations, councils and committees, and government services concerned were asked to present their candid opinions or comments on the reform. An overwhelming majority of them expressed favourable opinions, while only three or four organizations displayed fundamental opposition.

The best indicator of the opinion of the general public will be found in the opinions of the parent-teacher associations of primary and secondary schools, whose total membership numbers nearly
17 million. And it is in the resolutions adopted by the national conventions of these organizations that their opinions are made known explicitly. In 1971 the two national PTA conventions of primary and junior high schools and senior high schools were held, and both expressed in their respective resolutions not only their active support of the main lines of the recommendations, but also their desire for the earliest possible implementation.

Anticipating these reactions, the report concludes its Preface with the following statement:

No reform can be successfully realized without zeal and courage to overcome the concomitant obstacles. Fully aware of the possible danger that the education system might be left behind the fast-moving times if the status quo is adhered to because of immediate interest, idealistic opposition raised without facing reality, and time wasted over useless discussion on the reform which does not lead to any practical action, it is earnestly hoped that those concerned with education will begin to exert all possible efforts for the realization of the reform and that nation-wide support will grow among the general public.

The report also manifests an eager desire that the government take action with 'inflexible determination' and 'invincible courage' in particular for securing the enormous resources required for the reform.
‘What is your attitude towards tests?’ Hardly any meeting between Soviet psychologists and their Western colleagues fails to touch on this question, whether the issue at hand is selection of mentally backward children for special schools, singling out of gifted school-children or professional selection and determination of professional suitability.

Many foreign psychologists stress that tests as brief checks of a person’s giftedness, development or professional suitability have not proved their worth. I might refer to the opinion of Robert L. Ebel of the United States, who says that tests make an indelible impression upon man and his mental state. ‘Branded’ in childhood, he retains this appraisal throughout life, one which predetermines his social status, and damages his sense of self-respect beyond repair. Tests, he maintains, afford an impersonal, unpliant and mechanical appraisal and a predetermination, both of which essentially limit or even destroy human freedom.

Soviet psychologists are rather sceptical about the diagnostic and prognostic possibilities of testing for giftedness and development capabilities. They believe that tests for giftedness contradict some of the theoretical tenets of psychological science in the U.S.S.R., they feel that ability tests are contradictory to certain basic theories of Soviet psychology.

First of all, they oppose the concept firmly established in the Soviet Union according to which psychic development is not a spontaneous process revealing man’s giftedness, but the result of education. In the Soviet Union children are not singled out on the basis of the ability coefficient, as is done in many Western countries, where on this basis a boy or girl is judged unfit for further study.

Thereby, one assures us, tests measure. . . . But what do they really
measure? Mental capacities? An analysis of intelligence tests shows that they measure not man's giftedness, but a sum of acquired information and skill. And it is precisely the total of this information (in certain cases of the skill) which are revealed through tests.

It is evident that the best results are shown by the pupil who is specially prepared by teachers or parents, and which therefore is a direct result of the relative affluence of his family.

According to the British psychologist Brian Simon, by comparing the education received by a child in a private preparatory school in classes of from ten to fifteen pupils, to the education of an ordinary child attending public school with from forty-five to fifty children in a class, we see how great the educational possibilities differ between children of working people's families and families of the bourgeoisie.

If tests define, correctly to a certain degree, the level of the general education of the person tested, they can say nothing about whether he is able to absorb more knowledge. Thus, the problem of measuring talent remains unsolved. It is impossible to plumb the presupposed depths termed 'mental giftedness' with the help of tests.

Soviet psychologists have no objection to brief tests or attempts to express their results quantitatively. Tests by means of which one can measure mental capacities are admissible only if they are of a scientific character. And this can be the case only when the researcher is certain that he is checking ability and nothing else.

So far, this kind of measurement is no more than a shot in the dark. The passing of a test by the person examined means only one thing, that the test has been successfully passed. The factors underlying an incorrect solution remain an enigmatic riddle (lack of experience? knowledge? inattentiveness? or something else?).

Lev Vygotsky, an outstanding Soviet psychologist, has expressed some interesting ideas on this account. Criticizing the application of unsubstantiated tests, he notes that if a child does not solve the problem put to him, this fact in itself says nothing about his abilities.

This may testify, for instance, to a lack of corresponding knowledge and skill, as a result of which the child in unable to find the necessary solution independently. The child's mental development takes place in the process of learning, i.e. in constant contact with grown-ups. Therefore what a child cannot do independently, he can do with the help of a grown-up. That means that tomorrow he can learn to do it independently.

Basing himself on these premises, Vygotsky suggests that if the need arises to check a child, the test should not be limited to a single
examination to determine how he solves one or another problem independently. He says the test should be conducted twice. The first time to determine how the problem is solved independently, and the second to determine how it is solved with the help of a grown-up. It is not the appraisal of an independent solution of problems but the difference between the results of independent solution and that with the help of a grown-up that becomes a major point in the general appraisal of a child’s abilities. If this difference is absent, if the child can solve the problem at his age-level neither independently nor with the help of a grown-up, then there are grounds to speak of defective capacities, and even of mental backwardness.

In a brief article it is impossible to deal with all the aspects of the problem of tests. Deliberately brushing aside the question of tests of school progress, and other tests, we have dwelled here only on tests for mental ability, because it is they which are the subject of an old and still unsettled argument.
Education and models of development

Among the far-reaching controversies which are leading the world of education to an over-all review of its aims and functions, none have taken a sharper turn than criticism of development. In more than one developed country, young people (sometimes as early as school age) in increasing numbers are questioning the ideals of advanced technological societies. In the young nations of the third world, researchers and leaders are wondering with growing uneasiness about the validity of Western models of development.

In a forthcoming Unesco publication, A Critical Look at Development: Some Young People's Views, a young researcher from the University of Sussex, Peter Harper, forcefully expresses these radical criticisms of Western development models and proposes a new direction based on 'soft technology'. A professor and researcher of international renown, Ignacy Sachs, former Director of the Centre for Research on Underdeveloped Economies in Warsaw, replies by describing the difficulties inherent in technological pluralism and puts forward as a prerequisite a new type of education.

Such a dialogue calls into question the orientation, even the nature of education as it is traditionally conceived; no educator can remain indifferent to it.

It is up to the readers to enrich and to strengthen the discussion which is opened here.
Although the ‘Western model’ has been an influential goal for development, its appeal seems to be declining. I feel this is a healthy trend, and in this article I want to discuss some of the reasons for it. In particular I shall discuss criticisms from within the West itself which can be broadly identified as ‘left wing’, and a range of alternative developmental goals presented by radical critics. I say ‘range’ because, as always, radicals disagree on which aspects of Western society most merit criticism, and what ought to be done instead. Radical alternatives range from models in which work-organization and technology are virtually the same as in (the evolving) capitalist industrial organization, but with the capital owned by the State, to strongly decentralist models in which the ownership-patterns, work-organization and technology are all very different. A model of this last type is known by the curious name of ‘soft technology’. Speculation about its application to development has led to such bitter controversy that I shall discuss it primarily as a goal and not a pathway; at the end I shall make a few remarks about immediate application in the Third World. This paper, then, is about goals.

As examples, I choose three classes of problems supposedly afflicting Western society, namely, alienation; resource exploitation; and environmental stability. In respect of each of these problems I shall consider three ‘representative’ types of response in a very schematic fashion: first, the orthodox, ‘anti-ideological’ or ‘technoeconomistic’ approach, characteristic of the West, which tends to take a milder view of the problems and to advocate less drastic measures; second, a kind of general-purpose socialist critique of the

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1. This article is intended for inclusion in a forthcoming Unesco publication entitled *A Critical Look at Development: Some Young People’s Views.*
orthodox approach, which emphasizes the necessity of certain forms of economic and political structure, while retaining the basic industrial organization of technology; finally, a point of view which, while broadly sharing the socialist ethical and political standpoint, is sceptical about the realization of these ideals under the existing types of industrial organization and technology, and thus advocates both political and technological changes. This is called 'soft technology' to differentiate its technical proposals from the kinds of technical solutions offered to social and political problems by partisans of the techno-economistic approach.

Before I begin, I should perhaps make it clear what I mean by 'industrial society'. Such societies tend to be characterized by a 'rationalistic' ideology; strongly developed science and technology practised by highly specialized experts; continuous innovation; extensive mechanization of production and other functions, involving the breakdown of sequences into simple units; technology based on high-energy sources and certain kinds of raw materials, especially steel; a relatively small proportion of the population in agriculture, more in manufacturing, and an increasing number in secondary, tertiary and quaternary occupations; high specialization of work roles and skills (division of labour); rapid transport and communications. These might all be considered 'criterial', in that it would be hard to imagine any one of them absent in an industrial society. There are of course many other features almost invariably present, such as high literacy, diversity of products, degenerative instead of infectious diseases, high levels of pollution, and so on.

**Alienation**

By alienation I mean undesirable physical, mental or social effects which arise from the organization of production or of society—seen from the point of view of the sufferers. Alienated men may not find the work process satisfying; they lack control of the work situation and the disposition of products; they may feel separated from society and nature, experiencing a feeling that their environment is beyond their control. The original recipes for improved productivity via industrial production virtually had alienation 'wired in', as they prescribed breaking up the production process into small, minutely specialized units, operated by individual workers. Adam Smith, the most famous proponent of the method, himself recognized that 'the
man whose whole life is spent in performing a few simple operations becomes stupid and ignorant. The uniformity of his life corrupts the courage of his mind and the activity of his body’.

Although the physical aspects of industrial working conditions were always bad enough, the mental ones have come more and more into focus in the last century and a half, especially where the mood and methods of industrialism have invaded life outside the work situation. The need to control producers and markets has led to vigorous protests about the increasing sophistication of marketing; improvements in technological surveillance; the relegation of decisions to machines; and the ‘dehumanization’ brought about by the ideological influence of scientific and technological types of thinking.

The techno-economistic response to this takes the form of a bargain and a promise. If alienation is a real problem—and generally it is not so regarded (can you measure it?—then what are you talking about?)—it is a necessary and relatively small price to pay for what Adam Smith called, ‘that universal opulence that extends itself to the lowest ranks of the people’. Regrettable as boring or dehumanizing work may be, the enormously increased productivity allows more than adequate compensation to be paid in such forms as high wages, material comfort, and the extraordinary range of goods and opportunities which are such a spectacular feature at least of Western industrial culture. Pressed further, the techno-economist may concede the need for improved working conditions, and may suggest all manner of psychological nostrums (as introduced by many factories), but can ultimately fall back on the old dream that, in the end, alienation will be abolished by the abolition of labour itself, as the machines take over all the ‘boring’ aspects of production. In order to hasten the arrival of this day, we should of course play the efficiency game as hard as possible.

Socialist critiques of this line of argument are strongly influenced by the fact that socialists tend to be more sensitive to alienation as a condition. Marx, as R. M. Young puts it, ‘echoed Smith’s argument that the division of labour increases production but in doing so cripples the individual for the benefit of the capitalist. . . . This aspect moved to the centre of his analysis to become the basis of moral and political outrage at the ways in which the division of labour extended from the economic sphere to “every other sphere of activity, and everywhere lays the foundation of an all-embracing system of specializing and sorting men, developing a single faculty at the expense of all the others”’. And, of course, since the interests of capital and
labour are opposed, the real interests of the workers would never be considered in their own right, but only in so far as productivity could be improved. The way out of this was for the workers to own and control their own workplaces and their own products. In this way, they could produce what they really needed and not merely what was most efficient or most profitable.

But in practice there were, and are, many difficulties in realizing this goal. In a capitalist environment, a production unit still has to compete, and the same sacrifices to efficiency are necessary in order to survive. This proved true right from the level of small-scale experiments in ‘self-management’ up to the vast State of Russia, where Lenin, understandably proclaiming that ‘Communism equals socialism plus electrification’, proceeded to institute F. W. Taylor’s form of ‘scientific management’—the bane of the American labour movement—into Soviet factories. Inevitably, ‘efficiency’ and ‘productivity’ became a way of life. The interests of the workers were handled by a bureaucratic system which ultimately saw them in the same light as any system geared to satisfying human needs indirectly through the medium of wealth. Critics asked: is the worker still engaged in tedious, stultifying work? Does he control his work-conditions, or his products? How sensitive is the over-all production system to his real needs?

It would appear that, whatever the enormous differences between the modern industrial exemplars of capitalism and socialism, they are alike in many attitudes to alienation. If it is admitted at all as a problem, there are presumed to be mollifying forces (such as ‘consumer sovereignty’ or the capacity of the organs of the party to respond to all the nuances of individual need). Otherwise, both capitalism and socialism argue for patience in sticking to the task of increasing production, as the base of the millennium is constructed. Human happiness will be assured indirectly through the pursuit of wealth: this is the essence of techno-economism. Small but determined groups of heretics have railed against this prodigiously successful doctrine, ever since its emergence—from bourgeois Utopians on one side to the anarchists on the other—arguing always for a more direct attack on the problems of alienation and workers’ control, involving a more profound restructuring of the work situation than mere changes of formal ownership. It is the direction taken by members of the so-called ‘New Left’ who, to the bafflement of economists, have declared their enmity to both markets and bureaucracies as means of deciding what shall be produced, in what way, and how it shall be
distributed. There are calls for 'community', 'participation', 'self-management', 'serving the people', and for real liberty, equality, and fraternity.

How is all this to be achieved? The first assumption is that it is impossible to avoid a sense of alienation and to ensure proper control in the workplace if production is organized in centralized, highly specialized units with high quality-control mass production. If the relations between such units are not perfectly rationalized, various competition effects create distorted patterns of goods and distribution. If the relations are rationalized by means of a co-ordinating bureaucracy, insensitivity to local requirements creates its own kinds of distortion. Attempts to break through these problems by the use of sophisticated technology (such as computers) take us even further from the human scale and ordinary human control, and we are back on the road to techno-economism. The alternatives are various forms of decentralized production in which regions become relatively self-sufficient. The slogan 'production for use' is interpreted literally, and in principle permits both producers' and consumers' control over production and distribution—but only in sufficiently small, integrated, diverse and relatively self-reliant communities. Part of the meaning of 'soft technology' is technology appropriate to such communities, emphasizing research carried out in a context of local needs, in collaboration with users; the need to simplify techniques so that they can be understood, operated and maintained by most members of the community; and, within the constraints of these primary human needs, increased efficiency.

This is all very fine. The catch is of course that we have very little experience in putting these principles into operation, and, in any case, they might lead to massive declines in over-all productivity. This, however, may not matter, and may not even be true.

**Resource exploitation**

There is much discussion currently about the supposed 'exhaustion of resources'. This can be viewed in a number of ways. For the industrial nations, which by almost any definition depend on massive supplies of raw materials, it is potentially a question of sheer survival. There remain the ethical aspects. Who 'owns' the resources? What rights are conferred by 'ownership'? Who actually benefits from their extraction and use? What is a fair exchange relationship between
resource producers and consumers? What happens when resources are used up?

The orthodox approach to these questions sidesteps the difficult moral issues. Increasing amounts of raw materials are imported from the Third World, but the exchange bargain is regarded as a fair one, of mutual advantage. The line runs something like this: 'You don't need the resources now, so give them to us and we will provide you with the technology for development. This will allow the generation of a surplus for capital accumulation, after which technology will allow you to discover more, permit the use of leaner sources or enable you to make do with less by recycling. There is no shortage of resources: technology will provide.'

The socialist critique of this approach focuses on the equity of the arrangement, even given the technological assumptions. The soft-technology critique doubts the equity and the technology. For socialists, it is absurd to claim that the relationship is a 'fair' one, because it is exactly these 'trading' relationships which maintain under-development. Only political changes in both industrial nations and the Third World can break the vicious circle. But even if this is accepted, it does not solve the problem of what is a 'fair' relationship. Any such solution involves deciding who needs what resources, and when, and it is hard to be certain about this. The soft-technology view is that attempts to extend the relationship by technological means will deepen economic and technical dependency, exaggerate problems of technological alienation, and risk serious environmental problems. The exploitative nature of the relationship cannot be self-sufficient in resources. Changes in economic and political structure, while absolutely necessary, would not be enough. A new technology of self-reliance would have to be developed, basing itself on renewable or very abundant sources of energy and materials. This is one branch of 'soft technology'.

Environmental balance¹

Industrial societies, as is well known, have serious and perhaps inevitable environmental problems brought about partly by their own technological processes. Unfortunately, there is not enough space to discuss these problems in the detail they deserve, so I shall concen-

¹. On this problem, see the 'dossier' in Prospects, vol. II, no. 4, 1972, p. 445-77.—Editor's note.
trate on one category, namely those of a scale large enough to affect seriously whole continents. I have in mind the kinds of consequences that could conceivably follow, say, the continued build-up of aerosol particles in the atmosphere as a result of fossil-fuel burning (cooling of global mean air temperature?) or the continued accumulation of oil, persistent pesticides, etc., in ocean basins (‘death of the oceans’?). The fact that some people treat these problems extremely seriously while others laugh at them or become angry if they are mentioned illustrates the curious truth that we do not know how to behave towards them. We do not even know enough to assign rough probabilities in assessing our gambling chances. Perhaps in some distant galaxy there is a cosmic actuary who, from experience of countless industrial cultures, knows exactly what the odds are for such dismal events. Perhaps they are virtually certain to occur when an intelligent species enters its technological phase. Or on the contrary, perhaps such events never occur, and the fears of well-intentioned Jeremias throughout the history of the universe have never been vindicated.

But we cannot know these things in advance. That presents us with a puzzle. We want to know in order to avoid, but we cannot perfect our theory until we can collect real data: then it will be too late. If nothing happens, it is no evidence either way, for it could still happen next week. All we have are a few measurements and a few grubby theories. What should we do? Go on until what we are doing is proved dangerous? Or stop until it is proved safe? Neither course is more ‘rational’ than the other in the absence of a proper theory. Here temperament takes over from reason, as is usual in environmental debates, except that we are dealing not with odes on the death of a brown pelican but with attitudes to potentially momentous future events about which our knowledge is remarkably uncertain. Even the uncertainty is uncertain, for it is denied in most quarters.

The ethical question is, of course, how much of such a global risk a nation is entitled to pose, and what it should do if the risk level is quite unknown? Soft technologists here are ‘over-cautious’, technoeconomists are ‘reckless’, while socialists are divided. The conventional attitude is ‘it can’t happen; and even if it could, we would see it coming and find a solution’. This bespeaks the characteristic confidence that God designed the world to absorb most species of technological insult; and also the supreme confidence in the power and beneficence of technology that allows us to be sure that the problem-solving aspects will on aggregate dominate the problem-causing aspects. The ‘retrospective’ approach to environmental quality
fits in well with the philosophy of indirect fulfilment through wealth: 'Pollute first, make a million, then use part of the profit to clean up.'

Socialists tend to be ambivalent about environmental questions. Some see it as yet another diversionary tactic; others as proof of the destructive nature of capitalism that (at last!) can be measured with a pH-meter. The socialist environmental critique of capitalism is extraordinarily fascinating, and it is unfortunate that space is lacking to discuss it. Suffice it to say that there is a good case for supposing that an order-of-magnitude (tenfold) reduction in polluting emissions could be achieved for the same output in a rational socialist economic structure. We could expect a responsible socialist society to control any known contributions it might be making to the risk of a large-scale environmental breakdown, but for the soft technologists, even this is not good enough.

The reason for this extraordinary caution lies in an ecological model whose essence is conveyed by Barry Commoner’s epigram, ‘Nature knows best’. The biosphere is a continuously evolving self-organizing system which has accumulated a billion or so years of experience in absorbing and balancing all the tricks that it can play on itself. The question is, are the technological tricks that we play inside or outside that range of experience? Again, there is not enough information, but rightly or wrongly the soft technologists regard the long-term environmental changes of the last 100 years as ‘signs in the heavens’, as it were, that the technology of the last 100 years (i.e. industrial technology) might be of a fundamentally indigestible kind as far as the biosphere is concerned. To go on and find out would be to take an unjustifiable risk. The orthodox assumption that ‘anything we can break we can mend’ is regarded by soft technologists as no more justified than its converse, to wit, the ‘old woman who swallowed a fly’ model in which cascades of remedial technologies generate ever more intractable problems. Accordingly, the soft technology approach favours a decentralized socialist structure based on a technology of low risk that, within the terms of the theory, uses or mimics processes controlled by natural feedback loops.

**Soft technology in the industrial world**

If the problems of Western industrial society cannot be solved in the present capitalistic framework, profound changes are needed. The classical reasons for changing the control of production surely stand,
but this may not be enough. In other words, some critics argue, not only must the relations of production be changed, but the means also.

Consideration of a number of problems faced by contemporary Western society has led to a conception, or perhaps a hallucination, of a type of decentralized socialist society which aims at complete freedom from exploitation, either of its citizens (even in their own supposed best interests), or of human beings elsewhere, or of the biosphere. This requires a technology, ‘soft technology’ based on renewable or very abundant materials collected, processed, consumed and recycled locally, oriented to local problems by collaboration with users. Efficiency as such is sought only within this framework, although of course it is still an important goal of research and, to some extent, of social organization. Would this ‘demotion’ of efficiency result in complete collapse? This is hard to answer empirically, as it has never been tried on a large scale in an industrial country, but the case of China provides some interesting information.

A French journalist wrote recently after a trip to China, ‘The Chinese are mostly well-off, at a low standard of living, but with absolute equality.’ This is a remarkable sentence. How can a whole population be ‘well-off’ at a per capita GNP of under a hundred dollars? It is the right social organization that guarantees this kind of efficiency. China’s technology follows many of the principles of ‘soft technology’, partly through choice but mostly through necessity: decentralized industry with certain crucial centralized units; regional self-reliance; multiple use of resources; production and distribution according to real needs; simple technologies where they are effective (such as acupuncture); changed role of ‘experts’; people’s participation in technical innovation, and so on. In China everyone has the basic necessities at least. With a developed industrial base, an educated population, and an advanced soft technology, to be ‘well-off at high standard of living’ should be perfectly possible.

**Soft technology in the Third World**

Although theorists of soft technology have been strongly influenced by Third World thought (Mao Tse-tung, Nyerere, Gandhi, Illich, for example) they have been reluctant to apply their ideas to the Third World because the priorities are so different. The first priority must be to remove the political and economic causes of underdevelopment, both inside and outside a country. Then an adequate
industrial and educational base must be established, and at this stage ideas related to soft technology may be apropos. Again China is a provocative instance, turning on its head the old idea that development must be the search for growth at any cost in order that one day the needs of the people can be met. On the contrary, give priority to the needs of the people and economic growth will follow. Development therefore is primarily a political problem.

Once the political base is laid, there may be better ways of building up capital than buying it from industrial countries at exploitative prices. There is a great deal to be said for methods of development that rely as little as possible on the good intentions of the industrial nations. As George McRobie puts it,

If poor countries, striving to introduce industry, rely upon the capital-intensive technologies of the rich, then
1. Development concentrates in the cities, exacerbating the rural/urban imbalance and the social and economic disparities of a ‘dual economy’.
2. Production and consumption patterns reflect not the needs of the poor but the interests of the rich.
3. There is an ever-growing dependence upon the rich countries, and a weakening of self-reliance.
4. Above all, the mass of the population is excluded from the processes of production.

The alternative is to recognize that development begins with people, that production by the masses, not mass production in the hands of a small élite, is the only way to eliminate rural poverty and stagnation.

Just so, but first catch your revolution.
‘Soft technology’, blueprints for civilization, development

In a make-believe world of ideal, balanced markets and full employment, technical efficiency and economic profitability coincide, as do collective and individual interests; ends and means are kept in accord, as if by an invisible hand. Since no such world exists, however, economists have turned their attention to capital-labour substitutions and the choice of the optimum combination of the two by reference to shadow prices chosen so as to meet the social preferences of the planner. As a result, numerous books have been published on the choice of techniques, the chief merit of which is that they have stressed the relative nature of the optimum sought in relation to the social and economic conditions of a given country and the relative abundance of factors of production.

Peter Harper goes beyond the two-dimensional model underlying most discussions on the choice of techniques. He no longer merely postulates that the capital-labour relationship be established in line with the quest for full employment of the labour factor, virtually regardless of the ensuing labour productivity (and of the capital-product relationship), provided that productivity exceeds that of the techniques previously used. He looks on recourse to ‘intermediary techniques’ (since these are what we have just defined), particularly in the Third World, as a necessary but in no way sufficient condition. Furthermore, soft technology meets two demands: it must be part of a pattern of long-term harmonious management of ecological balances and therefore use non-renewable resources sparingly, recycle waste, turn renewable resources to better account, use clean sources of energy and avoid pollution; and it must be non-alienating.

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1. This analysis of the views of Peter Harper is based on his article published in the same issue of Prospects and on his study entitled "Soft Technology"—A Proposal for Alternatives under Conditions of Crisis’, prepared for the Youth Division of Unesco.
Harper does not seem to believe there is any imminent danger of the exhaustion of resources, and his point of view in this respect differs from that of the authors of *Blueprint for Survival*. But the exploitation of ever deeper and poorer deposits would increase the demand for energy enormously. Here Harper develops a very interesting theory regarding the risk of radioactive pollution. However slight the probability of a major accident, its consequences would be such that Harper prefers a strategy that does away with this risk at the cost of drastically limiting the use of energy. As to alienation, which is an ill common to industrial, highly urbanized societies, both capitalist and socialist, it could be overcome (or rather eliminated) only through recourse to a technology simple enough to be understood, handled and controlled by all members of society. Here we have Ivan Illich’s postulate of concord.

The sub-group of technologies which satisfy all these requirements—that is, those which are not capital-intensive, use small amounts of non-renewable resources and little energy, and shun economies of scale and the advantages of concentration—is, as the reader will suspect, extremely limited, at least in the present state of our knowledge. To keep to such technologies exclusively would mean entirely forgoing the production of many goods and services. Harper accepts this sacrifice and advocates a voluntarily frugal consumption pattern. The restrictive choice of techniques thus becomes a choice of life-style. Then he embarks on a third stage, when he postulates a model of social organization in line with the two previous choices, egalitarian and in keeping with the ethics of socialism, guided by rational principles opposed to decentralized and, by implication, rural economic motivation, and self-sufficient as far as possible. The ecological communities arising here and there portend a desirable future for mankind, split up into a host of microcosms living in harmony with nature and with themselves. Here we have a scheme of civilization inspired both by Gandhi and by the socialist outlook—a Utopia, as Harper readily acknowledges. What are we to think of it?

My reply will necessarily be a very personal one. I think that, as criticism of Western industrial society and the East European brand of socialism, what Harper has to say is of very definite significance. The inability to harness the progress of science and technology, the desperate race to produce more material goods, and the omnipresence of economic motivation to the detriment of an ethic of concord, of development and, in the last resort, of survival threatened by eco-
logical imbalances, are once more laid bare clearly, logically and convincingly, though the reader is given little information about the differences, fundamental though they are, between the capitalist countries, where the externalization of social costs and the internalization of profit make up what we may call the natural trend, and the socialist countries, which could have adopted an ecologically sound development strategy and have not done so.

But what are the chances of actually applying the blueprint entailed in the soft technology theory? Harper is perfectly aware of the marginality of Utopian communities, where, in addition, the facts as to their operation are falsified to the extent that in one way or another they operate in an environment that is far more ‘technicized’ and has a more powerful material and cultural infrastructure. When an intellectual disappointed by the consumer society decides to lead the simple life, he ultimately brings to the accomplishment of his aim all the ingenuity that can be mustered by the modern scientific mind when constrained by a shortage of material resources. He applies to it the knowledge he has obtained from books and universities. But what would happen in the second or third generation of a community shut in on itself? Or should we accept the continuation in one form or another, of exchanges by means of modern communication media, of research which can not do without laboratories and of specialized education? In a society split up into a host of self-sufficient microcosms—not very productive by economic standards—these cultural activities would be doubly inconceivable owing to the lack of a surplus to finance them and for want of any organizational support.

The moment we state the question, it becomes clear that, far from being a model of society for the future, soft technology is in fact a kind of conventionalized, handy means of stigmatizing the excesses of capitalist civilization and of industrialism, and of showing that in the scramble for profit or power, or both, they have missed opportunities of more harmonious development, a state in which the consumption structure would take less crazy forms, resources would be better managed and goals would be fixed in accordance with a comprehensive social rationale, instead of giving free rein to a conflicting multitude of narrow rationales.

Soft technology is more particularly an indictment of scientific and technical research priorities, which barely touch on the topics which are the most promising for the future: the use of non-conventional sources of energy (solar, geothermal, wind, etc.) rather than nuclear energy obtained by fission, the exploitation of the enormous capacity
of tropical regions for photosynthesis recycling, non-polluting tech-
iques (instead of the present escalation of production, pollution and
anti-pollution), the promotion of collective forms of consumption
and transport, the shifting of industries to the vicinity of non-
polluting sources of water power which abound in the Third World,
the reduction of bulk transport over land-locked seas, the organization
of the economy so as to curb rather than hasten obsolescence, and
so forth. As we can see, the whole range of science, including the
social and human sciences, is in question.
Soft technology may be considered a special case—always worth
laying hold of when it is available, at no excessive cost in terms of
productivity—of a more general process, in which development strat-
gegies are based on an analysis of interactions between natural pro-
cesses and social processes and appropriate means of applying them
are devised. To confine ourselves nowadays to soft technology would
be impossible. To postulate its discovery and allocate a substantial
proportion of research funds to it seems to be reasonable enough.
But, to be quite frank, it seems to me unlikely that we could simulta-
aneously observe all the conditions listed by Harper. The idea of
doing away with alienation by extreme simplification of social organi-
izations and production processes is, I feel, a retrograde solution, an
impossible return to the idealized communities of old. I fully agree
with Harper that a society without alienation is needed, and I am
ready to admit that no valid solution to this extremely difficult
problem has yet been put forward. But I believe that research should
be based on alternative models of complex organizations—be they
on a regional, national or world scale—and not on splitting them up
into small units. Harper’s Utopia ultimately loses sight of the global
rationale and substitutes for it a vision of the world made up of the
juxtaposition of a multitude of independent microcosms. This way
out is too facile and probably also impossible, if we consider the
immense price that would have to be paid in lost productivity time
in order to do away with the division of labour and with exchanges.
The problem of the power balance is untouched and, as Harper
acknowledges with regard to the relative positions of strength of the
developing countries and the industrial powers, it can only be solved
politically. Any futurology worthy of the name has at some stage to
analyse complex institutional models capable of integrating the indi-
vidual smoothly with mankind as a whole, via all the intermediate
levels of allegiance.
The attraction of soft technology in the rich countries is bound
up with the environment crisis. What might its impact be in the less-developed countries, which have not yet advanced very far along the path of industrialization?

There can be no doubt that its development will depend on its ability to evolve models for civilization different from those that the industrialized countries have followed. To go over the same road again would be both impossible and undesirable. History usually offers only anti-models, and it is convenient to see ourselves in relation to them so that we may be better able to go beyond them. But to conclude from this that the countries of the Third World should not become industrialized, as some people have tried to suggest, is quite unwarranted. The protests this theory has met with in various parts of Asia, Africa and Latin America seem to me perfectly justified. The truth is that the apocalypse will not come tomorrow, and the exhaustion of natural resources is not an immediate threat to us. Furthermore, it is not the thousands of millions of non-consumers in the Third World who tip the scales, but the few hundreds of millions of Americans and Europeans who are ruthless squanderers and the few tens of millions of inhabitants of the Third World who are in a position to be so, too. It would of course be absurd to attempt to extend to the whole of mankind the present levels of wastage of resources typical of the consumption pattern of the average American. But how can the abject poverty, the shortages and the diseases affecting the majority of human beings be eradicated without increased labour productivity, development of the underutilized resources of their countries, greater consumption of non-polluting energy, restoration of equity in international exchanges and transformation of productive and social structures through a different kind of industrialization, more heedful of its ecological and social impact, more aware in the choice of its ends and of its means, and very much more skilful in reconciling the manifold aims of development and distributing its benefits—in short, a kind of industrialization which does not fall prey to the blind tyranny of the demands of growth while pursuing it?

Once more, soft technology will benefit, the more fruitful research in this field proves to be. To use readily available means is certainly a principle all the sounder in the face of serious shortage and underdevelopment of resources, the adoption of techniques of a moderate level of capital intensity is all the more desirable where unemployment is acute, and the need to withstand alienating consumption patterns imported without modification is all the greater that their
establishment must of necessity, owing to the lack of adequate resources, lead to a highly uneven distribution of income, benefiting a well-to-do minority at the expense of a majority of paupers who are on the fringe of society. But there is a limit to its application, and people are obliged, as the Chinese make clear, to walk on their own two legs while pursuing a policy of conscious technological pluralism judiciously administered. This will no doubt be called a necessity rather than a virtue. But in China technological pluralism readily comes to terms with a highly egalitarian distribution of income, unlike the situation in Japan and most countries of the Third World which have always practised a crude technological pluralism.

Therefore to advocate soft technology as a comprehensive and exclusive blueprint for civilization for the countries of the Third World is to condemn them to non-development, at least for a fairly long period until we are able to elaborate techniques that are both soft and highly productive. One would think that the Third World today, like the noble savage of old, was a storybook character invented as a basis for more radical criticism of Western society. It can be no great surprise that it refuses to act its part.

I do not wish to end this article on such a negative note. I readily support Harper's ethical premises. I go along with him in his rejection of the model of the out-and-out affluent society and his quest for sound development strategies, from both the social and the ecological standpoints. I differ with him only as regards the solutions. His seems to me to be too facile and too optimistic. It can nevertheless be borne in mind as a very reliable guide when considering scientific and technical research priorities and as a demonstration of the urgency and gravity of the problem of alienations, this leading on to the problem of social organizations which are complex and democratic, in the strict etymological sense of the word that is to say, capable of ensuring the effective participation of citizens in the conduct of public affairs (I have vainly tried to find a vocabulary excluding terms that have been so cheapened by political misuse and yet are essential to what I have to say).

The solutions will not be reached tomorrow. But whatever their future form, they will certainly not be found at all unless a revolution in education is first achieved. If citizens are to be capable of freely choosing and participating in development strategies taking account of the long duration and the interaction of natural and social processes, and if they are to run complex social organizations efficiently without in so doing forfeiting their dignity and individuality, it is
necessary for the school or its equivalent to become a place for learning social roles and to make development its principal, daily and practical concern. The teacher must become a genuine agent of development, and the pupils must learn to organize themselves and manage their affairs within the school and in the context of activities undertaken on a local or regional scale. Furthermore, scientists and technicians at all levels must learn to appreciate the potentialities of soft technology and to understand the complexities of the harmonization of social and ecological aims in order to arrive at a better definition of research priorities, analyse the social and ecological repercussions of science, and thereby shoulder their responsibilities to society. What university today trains future specialists on these lines?
Elements for a dossier

Education for rural development

*The question of bringing rural areas into the mainstream of modern civilization is at the heart of the battle for development, which is the major battle of humanity in our time.... Education can and should play a great part in this if it remains true to its real purpose—which is to free man without perverting his humanity—and itself embraces the cause of reform instead of continuing in the same old way.*

René Maheu, address at opening plenary of the World Conference on Agricultural Education and Training, Copenhagen, 1970.
For an integrated rural development

One of the many lessons of the First Development Decade which seems to transcend all others is the supreme importance of the rural sector and of rural peoples in the whole process of development. It is increasingly clear that the gulf between urban and rural sectors of the community in many developing countries is widening alarmingly and that the enormous natural and human resource potential of rural areas is not contributing, to the extent it could, to over-all national development.

The mobilization of this potential represents one of the most difficult problems now facing developing countries. In many of these countries, where the economy will of necessity be based on agricultural production for many years to come, and where up to 90 per cent of the population live in rural areas, attention during the next Development Decade must be focused on tackling this problem. The development of rural areas, implying greatly increased productivity of the rural sector, is crucial to resolving the problems of malnutrition, lack of employment opportunities, development of commerce and industries, and above all in meeting the demands and legitimate aspirations of young people.

A recurrent theme of the papers collected in the following dossier is the need for carefully coordinated long-term planning for rural development, and several authors indicate that, although education lies at the heart of the development process, education by itself cannot pioneer change. Education can only provide an effective input to the development process if all the other necessary inputs are being effected at the same time. These include the creation of an adequate infrastructure, the provision of assured water and power supplies, the provision of credit facilities for rural communities, stability of land tenure, effective marketing systems, easy access to markets and processing plants, an assured supply of high-quality planting materials, stock and fertilizers, implements especially designed to ease the farmers' labours, and an assured market and price for his products in order that his standard of living and income shall equate with those of the urban dweller.

This attitude towards the contribution which education must make to integrated rural development permeates Unesco's current programmes for the renovation and reorientation of formal and non-formal systems of education in rural areas. Many of the ideas expressed in the papers of this dossier are being incorporated into a wide range of Unesco activities in Member States. These activities include new types of teacher training designed to produce a rural teacher who will become a dynamic 'animateur rural', functional literacy programmes coupled with new forms of adult education for rural peoples, pilot projects on the role of the rural school as a possible rural development centre, the use of modern communication methods and techniques, the improvement of agricultural education systems and the development of effective methods of lifelong education.

Whatever the type of activity, the final objective is that equal opportunity for education must be provided for all individuals, urban and rural, and all are designed to mobilize human resources for rural development and to play a dynamic role in the amelioration of the relative economic poverty of the world's rural populations.

Prospects, Vol. III, No. 2, Summer 1973
As we approach this new subject in Prospects, it is advisable to define its meaning. Each word in the title is important. ‘Education’, as we know, includes more than instruction or teaching. ‘For’, in this context, has a positive sense: it is not merely a question of education ‘with a view to development’ or ‘within the framework of development programmes’. The contributors are concerned more with trying to show precisely how education can, or could, become the principal force in more realistic and more effective processes of development.

As for the adjective ‘rural’, its importance in this context needs to be recognized. Education will be seen from the standpoint of the specific influence it may have on the development as such—even if the latter is not autonomous—of rural areas and peoples. In the majority of developing countries, these in fact represent between 70 and 90 per cent of the present productive labour force. The boldest extrapolations of trends in urbanization and industrialization do not suggest that there will be any radical change in this proportion in the next few decades, whereas the absolute number of rural dwellers is expected to increase by several hundred millions before 1985.¹

Leaven

Education for rural development, in the right quantity and of the right quality, should act as leaven in the rural environment, transforming it economically and socially in the required direction: productivity, mobility, diversification, growth.

Almost all the accepted models of development elaborated during the years immediately before and after the achievement of formal political and economic independence by three-quarters of the sovereign States of the modern world have two shortcomings.

Their assumptions are too closely based on the historical circumstances and the political, economic and social structures of Western Europe and North America. But, worse than that, they are the product of minds imbued with specifically urban values and prejudices.² Since

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the sixteenth century, Western capitalist civilization has taken root, prospered and finally triumphed around commercial and later industrial centres. It is logical that economists should be obsessed by these successes to the point of deriving from them theories, doctrines and even dogmas for which they readily claim a universal validity.

Quite apart from this controversy which is currently raging, suffice it to note that almost no one now disputes the necessity for a more rapid, more broadly based and more far-reaching evolution of the rural environment than can be engendered (or induced) by urbanization or industrialization which are inevitably held back by the chronic shortage of investment resources, qualified technical personnel and profitable outlets.

Bolder and more realistic models are now offered by China, by a number of other countries, particularly in Africa, and by several authors. Such research and experiments deal with one essential problem: how to combine a modernized rural ‘subsistence’ economy—whose output is very considerably increased in favour of local consumption, especially of foodstuffs, which at present is very inadequate—with decentralized light industries, as much as, or even more than, how to increase the capacity to meet the potential or foreseeable demands of urban economies or expanding export markets.

The essence of such an approach depends, as can easily be imagined, on the rural dwellers’ power of self-motivation and self-mobilization, which will not be aroused unless the methods adopted for the education of young people and adults are conceived with a view to the need for a form of rural development which has a dynamism of its own.

Traditions and changes

Such action ought logically to go some way towards answering various questions which, in the past, have considerably perplexed those who are trying to analyse the many-sided problems of education in a rural environment.

The first of these questions concerns the apparently irreconcilable conflict between, on the one hand, the objective of bringing about a radical change in attitudes of mind, beliefs and taboos, a change which is essential if traditional societies are to adapt to the demands of a competitive and specialized economy, and, on the other hand, the desire to respect, and also make the best use of, structures and customs which have the merit not only of being profoundly accepted and assimilated by the local people themselves but also of having been, for centuries past, appropriate to local conditions, the complexity of which can very rarely be grasped by an observer from outside, however qualified or distinguished he may be.

The second fundamental difficulty which a less town-oriented scheme of rural development may help to resolve is that of the rapid desertion of the rural areas by young people who have attended school or achieved basic literacy, and who at present go to swell the ranks of the urban (or suburban) misfits or unemployed, although their intellectual qualifications, however modest, could be of use in country areas that had been aroused from inertia.

Presumptuous as it may seem, the over-all objective of education for rural development that we suggest is therefore to create a new human ‘species’; one which will encompass men and women, throughout the whole range of school, university and professional qualifications, who are determined to promote a rural society and economy, who refuse, as a matter of principle, to accept the assumption that industrial and urban modes of life, activity and production are intrinsically superior, who will, in short, treat with the scorn it deserves the arrogant affirmation of the superiority of townsfolk over country dwellers, and who will, in their turn, reject with some disdain the inferiority complex engendered elsewhere by centuries or decades of industrial development.
The necessity of rehabilitation

It is of capital importance for the future of mankind as a whole that the hundreds of millions of people who cannot reasonably hope to become citizens of industrialized societies before the end of this century (precisely those who are entering schools and universities today and will do so tomorrow) should finally come once more to be at peace with themselves as they are, even though they are only poor country people.

In other words, education for rural development, although obviously it concerns chiefly rural populations, is no less necessary among city dwellers and above all among the ruling élite.

The disdainful condescension which is usually accorded to peasants; the fatalistic acceptance of rural poverty—regarded by too many supposedly enlightened town dwellers as the price to be paid for incurable backwardness; the presumptuousness of planners unfamiliar with the rural environment and who receive little enlightenment from sociological studies which are often superficial or based on ideas acquired in different circumstances; the stubborn determination to force rural society into the prefabricated framework of industrial and commercial society and to integrate it prematurely with its alienating structures—all these acknowledged shortcomings of rural development policies will be less acute when a better scale of values replaces those which are still impeding any hesitant move there may be in favour of rural development *sui generis*.

The most serious difficulty encountered by any one who explores the psychological and sociological bedrock of attitudes towards rural development is the prevailing idea that agriculture, particularly ‘traditional’ agriculture, is, in the context of the twentieth century, a primitive, backward, pathetic and indefensible activity.

Paradoxically, this prejudice is even more firmly rooted in the minds of countless rural people than in the minds of enlightened town dwellers. It has been pointed out in this connection that there is a vicious circle of neglect and contempt—a cycle which is well known, be it noted in passing, in the emergence of racialism. Because the structures of political and economic power, weighing heavily on rural communities, impose on them unfavourable and unjust production and living conditions, this state of affairs becomes a ‘proof’ of intrinsic inferiority. This feeling of inferiority, in its turn, brings about a paralysis of the spirit of initiative and progress of the people concerned.

Knowledge of oneself and of the environment

Thus it is essential that education for rural development—whatever the level of learning, even, indeed especially, at the lower level—should make the countryman simultaneously aware of all the factors hindering his development and of all the means which can give him access to a life richer and more worthy of the century in which he lives.

The flight to the town, the children’s tendency to look towards the town, were for a long time regarded as desertions, until, almost overnight, they became a very widespread aspiration, comparable to a step up on the social scale. The improvement in living and working conditions in the town—at least for those who find work there—got the better of ancestral value judgements. This phase—the shedding of the feeling of mystery and guilt—is part and parcel of the process by which the country dweller will himself become able to see which aspects of his life and circumstances are attributable to his own shortcomings, and what it would be possible for him to do to remedy them.

It is accepted that there can be no hope of
personality development if the appropriate motivation is lacking. As long as it is taken as axiomatic that the countryside is a place of suffering from which one escapes by acquiring learning, rural development will remain an unattainable goal.

For the result of this particular type of 'brain drain' is not only that it further reduces the human resources of an environment already at a disadvantage from the educational point of view. It also accentuates the imbalance in this respect between urban and rural society; in so far as village communities may have to bear the cost of the education of country children, this flight from the countryside leads to a paradoxical situation whereby those who can least afford it finance the instruction in basic literacy and the primary schooling of people whose work is destined to play a part in enriching the towns; finally, and most paradoxically of all, it often has the result of putting government services in rural areas, and thus the future of the countryside, in the hands of town dwellers who have recently emigrated and whose main concern is to return to a town job.

It has to be admitted that country people have little chance of earning an average income equal to that of workers in industry and in services. It is all the more important, therefore, that they should acquire and keep a sense of their own personality, rooted in a body of knowledge well adapted to their environment, and which, though different from that of their contemporaries in the towns, is not inferior either in quality or in personal and social usefulness.

A depressing record

The real way to approach the problem of reconciling the objectives and forms of rural development with the pressures of demographic trends and the possible rates of general economic growth is to create aspirations and arouse energies among the rural masses.

To what extent do present policies and systems of education meet this need? No contemporary government would be presumptuous enough to declare itself satisfied in the matter. All of them, in different degrees, admit that they are guilty of having too readily accepted the legacy of institutions set up by the colonial power or slavishly copied from Western models. The phenomenon of rejection after a period of relative euphoria, is apparently not restricted to the transplant of human organs by surgery.

The excessive emphasis laid on formal education, the inappropriateness of school syllabi to the particular needs of the people concerned, the limitations which hamper the initiative of individual teachers, methods of teaching which are out of date and unproductive, the worship of paper qualifications, the wrong-headed guidance of the best pupils towards vocations which have nothing to do with rural development, and negligence in vocational guidance and training are among the faults which are universally known and admitted.

These faults are particularly harmful in the rural environment because the rural mentality is torn between a traditional mistrust of anything contributed by alien cultures and a blind admiration for the manifest wealth of other sectors of society. Country people are thus psychologically ill-equipped to assimilate, in the original sense of the word, what education has to give them or, to use a colloquial but appropriate expression, 'to pick and choose'.

One must unfortunately include among those who don't 'choose', the enormous percentage of children who have allegedly had a school education but who do not complete even the most elementary course of studies.

The sometimes considerable efforts made by many countries to get development in a rural environment started have so far achieved such a very limited degree of success that one may assume that there has too often been a fundamental flaw in the premises of these efforts.
Between tradition and change

This flaw was denounced by the World Conference on Agricultural Education and Training in August 1970.

Most systems of technical and professional training have concentrated primarily upon the applied science and technology and have failed to appreciate the importance of the social, economic and cultural implications of change in rural societies and institutional structures... systems of education and training are not... geared to the real needs of development...

Rural education in the national plan: the masses and leadership

The distant and most general objective of education for rural development is, in the last analysis, to bring about a complete renovation of the rural environment 'from within'. Only this kind of renovation can provide what is necessary for the indispensable improvement in living conditions, while countering the present-day tendency towards headlong flight from the countryside on the part of the young people.

But these long-term prospects will not be achieved without inducements and assistance, which it behoves the national and international community to provide. They have meaning only in so far as rural development is integrated, to the fullest possible extent, with general economic and social development.

That is why specialists are unanimous in calling for a rural development of which all parts are integrated with each other in a coherent whole, itself an integral part of the national development plan. Nevertheless, it must be pointed out that this approach may lead to the neglect of those aspects of rural activity which do not fit into the broad stream of commercial operations.

This factor becomes important when the actual work of planning and programming is started and, in short, when funds are to be allocated or distributed.

The overriding priority of education for rural development ought to be to meet the educational needs of the millions of rural people. Development depends, above all, on the masses receiving the right kind of education.

But to impart this education it is essential to have educators, and to train these educators one needs teachers and institutions.

The apportionment of public funds among these different parts of an education system is the fundamental responsibility of logical planning. However, those whose business it is to formulate planning policy have nothing to guide them except the slenderness of the resources they have at their disposal.

It is often tempting, instead of giving priority to the education of the masses, to provide 'leadership' for the ignorant peasantry. Some political régimes even find this solution particularly convenient. In this event the technical experts work in association with the existing power structure to increase the productivity of what Professor M. Cépède, Independent Chairman of the Council of the Food and Agriculture Organization (FAO), indignantly calls 'human cattle'.

But a mass education policy, on whatever model it is based, requires teachers whose services are not essential to society for other more technical or more scientific tasks. Sometimes this vicious circle can be broken only by a political revolution and the generous and disinterested enthusiasm it often generates. But such enthusiasm may be short lived, and voluntary services or the devoted self-sacrifice of individuals are not a sound foundation on which to build a system of education for the people.

In the absence of such breaks in continuity, some decision must inevitably be taken, and the claims of universal education are too often overruled by the demand for immediate tangible benefits.
New approaches

The prohibitive cost, just as much as the avowed weaknesses of traditional forms of teaching, has induced a growing number of countries to experiment with approaches which seem better suited to the demands of rural education: functional literacy; the fundamental revision of educational syllabi so that they are centred round the specific environment of the pupils; continuity between school education, vocational pre-training and technical instruction; organizational links between school systems and adult-education services, especially agricultural extension services, etc.

The activities of groups and associations of members of rural communities are a new and now recognized aspect of education for rural development. Such groups may be spontaneous and independent or associated in various ways with the work of services provided by the State. The co-ordination of these activities with the conventional educational institutions and with the official extension services often raises problems that require careful handling.

But the range of possibilities is practically infinite. Some governments consider associations or even co-operatives of agricultural workers as extensions of their own services, and supply them with management personnel, counsellors and technologists. But many others are more ready to show confidence in the educational potential of the spontaneous organizations, which have often demonstrated a remarkable ability, when faced with specific problems, to create both the desire for knowledge and novel means to satisfy it.

Education in and through technical or economic activity has the immense additional advantage of making the concepts and methods of mutual aid and collective labour part of the peasant mentality, which often tends to be too individualistic.

Such activities, moreover, have a particular appeal for adolescents and young people (4-H clubs, future farmers' clubs, young farmers' clubs). In other countries the more demanding national-service systems include a considerable educational element.

New combinations of elements

An experiment in further education being carried out in one African country seems to have taken this line of thought to its logical but almost revolutionary conclusions, that of making a new training system the direct responsibility of peasant communities. The analysis by the villages of their own social, economic, technical and cultural system highlights their educational needs and objectives; subsequently a training project is organized, and counsellors, chosen from among the inhabitants of the village, are trained.

We will deliberately end this rapid review of the problems of education for rural development with this striking example. Such an education, if it is to be beneficial, must be essentially the concern of rural people. The innumerable incidental difficulties raised by the interrelationship of institutions and the recruitment and professional training of teachers, assistant teachers or counsellors are slight compared with the difficulty of rousing the rural masses from their state of resignation, despondency, helplessness and all too often silent despair.

It is now recognized that there are criteria for evaluating the effectiveness of a system of education. They were formulated with remarkable concision by P. H. Coombs, during the Copenhagen conference as relationship between the five key features of any system: its

objectives, internal process, inputs, outputs, end benefits. About the last element, P. H. Coombs wrote: '... the ultimate consequences of this learning provide the acid test of how worthwhile the education has been'.

This observation does not apply only to those who have the privilege of pursuing a course of studies. It is equally valid for all rural people. The improvement in living conditions in the country is, in the last analysis, the test of the effectiveness of the educational system.

It is therefore not superfluous, before going on to the first articles in this issue, to glance at the recent development of rural education policies and programmes. The World Conference on Agricultural Education and Training of 1970 set out its principal conclusions under a number of headings. FAO, in a special chapter of its Annual Report for 1972 on the 'State of Food and Agriculture', examined in detail the extent to which these unanimous recommendations were being carried out. The picture is rather discouraging:

Despite understanding of the need to integrate rural education and make it an instrument of development objectives, there are still too few examples of it happening.

Continual stress is placed on the planning of national systems of agricultural education and training, but in practice few are yet planned. The advantage of national co-ordinating councils for agricultural education and training has had wide support and yet few have been formed. Effective manpower planning is regarded as essential in the programming of education and training but few developing countries have any realistic manpower planning for the rural sector.

Trained manpower needs should be related much more directly to the farm structure and requirements at the farm family level but we still tend to work from such theoretical ratios as numbers of farmers per extension worker, etc.

Reports repeatedly stress the desirability of developing less formal types of education and training but too little pioneer work has been done in this field.

Flexibility is accepted as essential if rural education and training systems are to be adaptable to changing needs but there are few systems with the requisite degree of flexibility.

Despite the increase in the number of training institutions the shortage of trained technicians continues to be serious in many countries.

There is full awareness of the acute nature of the rural youth problem. The total numbers involved grow continuously but satisfactory solutions remain to be found.

It can never be over-emphasized that education for rural development, in most developing countries, concerns three out of every four citizens. One is obliged to point out that these countries have generally given the rural sector too low a priority in their development policies and budgets. The weaknesses of rural education systems are only one aspect—the most fraught with danger for the future—of a relative negligence for which foreign counsellors are even more to blame than national leaders.

But it would be wrong to imagine that the future will always repeat the mistakes of the past. The contributions which follow give reason for hope.
Education for rural development: current trends

This paper surveys the literature on educational programmes in selected rural areas of the world. It reports present trends in organization, content and methodology. The focus is on the structure of formal education, its innovation and impact on the development of the rural areas.

Education in this paper is defined as that activity which occurs under the title of schooling. Excluded are various community-development schemes, extension work with farmers and other educative activities that are now called non-formal or out-of-school education.

Rural areas are less easily defined. Combinations of environmental, demographic, economic and social conditions can be subsumed under the rubric of the rural areas; thus, we cannot think of them as being homogeneous in character. They are as diverse as metropolitan centres, and in some respects more so.

This diversity has implications both for the choice of target populations for rural education and the functions of rural schools. The literature indicates that in practice various criteria are employed for selecting target populations and functions. For example, rural education is sometimes addressed primarily to groups with the highest population densities, and sometimes to those who live the greatest distance from centres of population.

Models of rural education

Three positions can be delineated in respect to the functions of rural education. The first, associated with the continental model of European education, views rural education as principally vocational and agricultural in orientation. The second, developing out of the British educational philosophy, views education as a medium for transmission of a common core 'which is academic in content, certificate-oriented and replete with examination filtering devices'. These two positions have their roots in colonial educational practice and assume that the rural segment of the population is engaged in farming, in extracting natural resources, in processing the resources of their immediate surroundings, or in performing direct personal, professional and business services for the people so engaged.

The third approach recognizes as valid the assumptions of the first two and attempts to incorporate elements from each. A rural-relevant content or experimental base is used to foster the learning of universally desired skills, i.e. reading, writing and a scientific attitude. Thus, in this approach the goal is basic literacy and the subject matter is drawn from the rural environment.

**Government needs and policies**

Planning for development has gone through several phases. For a while interest was centred on investment in material infrastructure. Then a shift of priorities thrust investment in human capital to the fore. As a result a great deal of activity was generated around the need for educational planning. Interest originally focused on the high-level and middle-level manpower needs to enhance industrialization. Resource spending centred on goods and services for the modern sector. Education was mainly academic.

But the experience of the last ten years, if it has been nebulous on some issues, clearly points out that effort in the modern sector is not a panacea for the economic and social goals of newly independent countries. The rural population is so large, and will continue to be so in the future, that greater interest and concern is being directed to it. The new model of development is that of rural transformation or regeneration.

**Projects and programmes**

The following survey of formal educational systems and the programmes they maintain and develop for the rural sector follows the three models cited earlier as they are reflected in the primary, secondary and higher levels of education.

**PRIMARY EDUCATION**

The vocational or agricultural approach, the first function mentioned above, is based on two rationales. One is that European experience reveals that primary education should be both general and vocational. It should therefore be emulated elsewhere. The other rationale is that most developing countries are predominantly rural and will probably continue to be so for some time to come. Dumont expresses this view:

> When a considerable proportion of the child population attends school, the country school should be recognized as the chief agency for the villages' agricultural progress and should thus be used to train up-to-date peasants.1

Many countries have used this approach, for example the Núcleos Escolares Campesinos (rural nuclear schools) of Peru. Instruction in these schools centres on farming, gardening, sanitation, arithmetic, shopwork, language, vocational training and extension work. Other Latin American countries also have some agricultural education in the primary curriculum. Argentina and Colombia are attempting to upgrade instruction by recruiting primary-school teachers who already have training in agriculture. The Colombian schools' efforts to inculcate some agricultural bias into the curriculum has been thwarted by physical and social factors. Poor soil, lack of fertilizer and tools are potent barriers, and when coupled with lack of knowledge and desire the effects are devastating. As in many other countries the population's view of education conforms to a pattern emanating from the capital or metropolitan areas. 'Classic' is the label and 'culture' is the desired product. A great many Asian countries have rural primary programmes with a rural bias. In Laos,

agricultural education is part of the rural primary curriculum. A project method is employed to produce a simple enterprise through the utilization of manual labour. Part of the primary course in rural schools in Sri Lanka consists of farming activities in a work-experience programme. Burma has devised a similar plan for its rural primary schools, but this programme is carried a step further by relating the work activities to an integrated programme in the social and natural sciences. This is a part of the government's desire to implement a policy of bringing basic education within the reach of all. Co-curricular activities that bring practical experiences and theoretical disciplines together are seen as a means toward education of the 'whole man'. The Khmer Republic, also, has an integrated programme of work activities (usually school gardening) and subject matter. Several other Asian countries combine agricultural education and/or work activities in their rural schools. Among these are Afghanistan, India, Indonesia, Pakistan, the Philippines and Thailand.

On the African continent there are comparatively fewer countries that attempt to promote a vocational bias in rural primary schools. Many early studies acknowledged the importance of agriculture to the continent and the French and Belgian vocational emphasis in primary schooling was attempted during the colonial period. At best these programmes had modest success; many failed. Tanzania, from 1951 to 1961, had agricultural education as part of the primary syllabus but dropped it because of discouraging results. Now with Dr Nyerere's proposal on education for self-reliance, Tanzania is trying again. Yerere has deliberately chosen to use rural schools as the vehicle to generate an immediate and positive impact on rural development. The main hope is to instil an appreciation of the fact that regardless of their profession, each Tanzanian is dependent on rural development and agriculture. It is too early to indicate what the final outcome will be, but the Tanzania programme looks promising and deserves watching.

Several other African nations have not completely abandoned the idea of rural education as vocational or agricultural education. A resolution passed by the General Conference of Unesco, Fourteenth Session, 1966, encouraged Member States to develop pilot projects for adapting primary education to rural development. Uganda has investigated the possibilities of such a programme. The Upper Volta still has agricultural schools that attempt to produce young farmers. And Mali hopes by legislative action to make agricultural education compulsory in rural areas. The Government of Cameroon has instigated a compulsory programme of agricultural work from the second year of elementary school onwards.

The literature suggests that many of the programmes which gave an agricultural bias to rural primary schools have failed. Perhaps some of the reasons for failure may be found in an analysis of the Indian basic education programme. The Warha scheme, or nai talim, was to be free and compulsory for seven years. It was to be centred on some form of manual and productive work, and a skill was to be learned by each student for use in his village life. The programme collapsed. Many reasons are given for the failure, but basic among them is that the programme went against what the parents saw as the function of education; the school tended to be a dead-end institution with no opportunities for mobility. The same holds true for many other primary-education programmes with a vocational bias.

There is another point of even greater importance. This revolves around the question of

whether rural primary schools with an agricultural bias have any effect at all on rural development. Weeks expresses a widely held scepticism when he states: ‘It is now generally recognized that in many areas economic changes, such as the introduction of peasant-based, cash-crop farming, preceded the widespread expansion of primary education, indicating that agricultural development took place in the absence of formal Western education.’ The Kericho conference of September 1966 reinforced this view when it concluded that the formal school system alone could do little to affect the larger society.

Comments about the inadequacy of a rural-bias approach seem to overlook two points that need investigation. Critics of the approach often claim that it was doomed from the start. Terms such as ‘rising expectations’ are used to explain why. What is never investigated is the degree of success this approach has when it is wanted. In some areas of Liberia, for example, there is opposition to academic education. The local authorities of these areas feel that education takes young people away from the land. Thus considerable effort has been made to give education a practical orientation and make it fit into the local milieu, which is agricultural. How successful is the approach now? The second point that should be investigated is whether rising expectations lead to a negative reaction to rural, agricultural employment. One study seems to indicate such is not the case. Heijnen found that most immigrants to urban areas leave the rural sector to look for a well-paid job. If these jobs were obtainable in the country, most would have remained in the country. The remedy doesn’t seem to lie with the rural-school curriculum as much as with a need for general rural development.

The second approach to the function of the rural primary school has been to view it as having the same role as the urban primary school. The basic objective has been the preparation of the child for a higher level of schooling. The result has been to ease entry into non-agricultural employment, away from the rural areas. In terms of meeting the needs of the rural areas or in promoting rural development this approach is deficient. It has, however, continued strong, due to the support it receives from the general population. The upward mobility possible through this approach is what the masses apparently perceive as the function of schooling.

Attempts have been made to improve the offerings of rural primary schools that operate in this mode by upgrading the teaching personnel and introducing rural relevancy into the subject matter. The United States has assisted in a number of these programmes through the Agency for International Development. Basically the programmes are designed to upgrade the teachers’ academic qualifications. Specifically more effort is being directed to include science at the elementary level. The wish is for more than just nature study. Instead, the desired outcomes are attitudes of acceptance of change and the belief in man’s mastery over his fate. Only teachers who possess these attitudes can pass them on to the children. Malawi typifies this new approach. Simple science is being introduced to all primary pupils in place of nature study and elementary rural science. Such topics as weather, animal and plant study as they apply to Malawi, constitute part of the science content. The programme aspires to maximizing student time to perform simple experiments. Science is seen as a medium to increase knowledge of the environment and development of the child’s personality.

Due to the paucity of successes that come from the rural primary schools, many post-primary programmes have been devised to

handle the failures. Some of these programmes will be discussed as a part of secondary education. Others such as 4-H clubs, scouts, young farmers, clubs, and national service, are educationally non-formal responses to a lack in the formal system. Still, this approach is not entirely devoid of merit for rural development. Hanson has shrewdly observed that even academically oriented rural schools . . . have played and are continuing to play a role in extending the cash economy, a major element in rural transformation. This would be true, if for no other reason, because schools have provided a major incentive (perhaps the major incentive) for shifting a larger proportion of the farming efforts into cash cropping initially in order to pay school fees.¹

The third and last approach, that of developing rural-relevant content to teach basic skills, is one which the literature indicates seems to be gaining favour. Several basic assumptions are central to this approach. First, increasing doubts about the relationship of formal education and rural development have fostered the belief that the school by itself can do little to effect change. The problem of change is a social, cultural and economic concern involving more than just the school. Second, there is doubt as to just what the rural primary-school pupil can learn that would affect agricultural production. This third approach sees rural education as only one part of an integrated package of rural development and has a much greater faith in an interactional perspective. The ‘package approach’ to agricultural development in India (1956–66) could easily have been a predecessor to the educational integrated approach, for it laid down the axiom that all aspects of the development process have complementary relationships. If any one aspect or factor is disregarded or missing, then this would nullify the beneficial influence of the other factors.

A good educational model for this approach would appear to be the efforts of Egypt to introduce genuine rural education into rural elementary schools; after the initial attempts in the 1930s, a formula was devised whereby the school became a central part of a rural ‘social unit’. Several principles of the Egyptian model seem to promote the educational process. These principles are

. . . first making rural life the centre of the total curricula; second, training all teachers for rural schools in and through the rural environment; and third, using the school as one of a complex of social agencies designed to make living in the rural community a reasonably attractive alternative. . . .²

At this juncture it is too early to say what countries will actually follow through on this third approach. It is interesting to note, however, that the United Nations Development Programme has pilot projects for integrated rural development in Peru and Uganda. Apparently, since the initiation of these two projects in 1969/70, the level of success has been great enough to warrant their expansion. There is also the possibility that similar projects in Asia and the Arab States may be established.

SECONDARY EDUCATION

At the secondary-education level the three approaches for primary schools tend to coalesce into a greater awareness of the need for special programmes for the rural sector. Both those who view the rural schools’ function as vocational and agricultural and those who see them as offering the same syllabus as urban schools tend to agree that some secondary-level students should and can be settled into agricultural training. Several patterns have been developed to produce this result. In some cases institutions are

¹ John W. Hanson, Enhancing the Contribution of Formal Education in Africa, p. 6, Washington, D.C., Overseas Liaison Committee, American Council on Education, April 1971.
established to produce agricultural workers and/or agricultural technicians. Sometimes there are schools that offer short one- to three-year courses over a certificate programme to prepare students for farming, farm life and positions as farm managers. These schools are given different titles from country to country. In the Republic of Korea the schools are three-year institutions called agricultural high schools. In Sri Lanka they are labelled practical farm schools. The basic format of the agricultural high school/farm school is to provide a correlation of instruction and field experience in a residential setting. Several other Asian countries, besides the two mentioned above, operate agricultural high schools/farm schools. In Malaysia the Ministry of Education runs a two-year vocational agriculture school to train farmers. The Laotian Government has practical schools of agriculture as part of its post-primary system of schooling. In Indonesia three-year junior high schools perform this function. In addition, Burma, India, Jordan, Nepal and the Republic of Viet-Nam operate similar institutions. This type of education is quite extensive in the various Latin American and Caribbean countries. In Africa, however, the secondary level of education for farmers and technicians is not well developed, and the literature on the subject is meagre.

There are several difficulties in this approach. There is always the danger that in attempting to provide a 'good' institution, too much land is set aside and too sophisticated equipment is provided to operate the farms. Neither condition is found in the farming communities from which the students come. Also, the objectives of the institutions are frequently not enunciated clearly and the quality of instruction is poor.

Some schools offer a more technical course of study and graduate farm or agricultural technicians. Some of the farm schools discussed above provide this service. For example, the Malaysian farm schools have a two-year course for farmers and a three-year course for farm technicians. Similarly the Indonesian educational system operates junior agricultural high schools for farmer training and senior agricultural schools for farm technicians. The most common vehicles for the development of farm technicians is either through a regular high school where agriculture is part of the general education programme, or in comprehensive high schools where agriculture is one of the main streams of the curriculum. Both of these types of institutions have been encouraged by the financial and technical assistance offered through the United States Government and various agencies.

Most commonly, secondary agricultural training is offered in the general or regular high school. Burma, India, Iran, Japan, the Khmer Republic, Pakistan and Singapore are some of the countries that use the general high school for agricultural education.

The question often arises about where the graduates of agricultural programmes at the secondary level find employment. Do these schools actually train students to go into agricultural work? Or do students simply use them as a means of finding employment outside the agricultural sector? Hard data on these questions are limited. Some evidence suggests that the desire to return to agriculture after training for it is related to the level of agricultural development.

Another way in which the secondary level of education can be beneficial to rural areas is by developing talents that can fit later into a programme of research and planning for agricultural growth and development. Professional abilities of this type are nurtured traditionally in academically oriented secondary schools. Thus, general or regular high schools develop personnel that can move to the next level of education for university education.

One big problem of agricultural education at the secondary level is the lack of co-ordination between the various governmental agencies that
are responsible for such training. In some countries the ministries of agriculture and education may be operating competing programmes that lead from one level of complexity to another without inter-ministry consultation. For example, in Malaysia the Ministry of Agriculture has schools of agriculture to train farm technicians, while the Ministry of Education operates two-year vocational agricultural schools to train farmers. The big limitation of the advocates of agricultural education at the secondary level is their narrow conception of rural education. Improvement of agricultural techniques and productivity is their curricular content. But rural development is going to require more than agriculture emphasis.

Village and small town development, extension of health and education services, expansion of local trade and commerce, organization of co-operatives, the provision of credit, the creation of local industries for processing agricultural products, and the improvement of housing, water supplies, sanitation, roads and communication are all within its scope.

The integrated approach to rural education, mentioned in our discussion of primary education, doesn’t seem to have much of a voice at the secondary-school level at the present time. Though some would say it is doubtful that valuable time in secondary schools should be spent teaching the vocational mechanics of farming; instead have them come to understand the requirements of agricultural development.

in the programmes offered at the secondary level little of this happens. But the experts continue to be drawn to the integrated approach.

HIGHER EDUCATION

The university in terms of rural development has most frequently been viewed as the site for the education of the graduate planners, policy formulators and chief executives. In world perspective there exists a wide variety of types of organizations and administrations in university-level agricultural programmes. In a 1965 survey of fifteen Asian countries it was found that there were 189 higher institutions offering agricultural education. Some of these are agricultural colleges under the authority of the ministry of education, as in Burma, Japan, the Republic of Korea, and the Republic of Vietnam. Others are the responsibility of the ministry of agriculture, as in Pakistan and India. In Laos, Nepal and Singapore no institutions offer a university degree in agriculture.

Basically, the chief complaint against the Asian institutions as well as those in Latin America is that they are too theoretical. The main problems seem to be a rigid curriculum, little research being done by the staff, inadequate staff qualifications, lack of co-ordination between theory and practice, university isolationism and the lack of agricultural extension. In fact, a number of African countries, particularly former French colonies—including Central African Republic, Chad, Dahomey, Guinea, Mali, Senegal, Togo and Upper Volta—have no institutions of higher education offering agriculture education. Former British colonies, on the other hand, tend to have institutions of high learning in agriculture. The goal in these institutions is a B.Sc. in agriculture, either at a general or honours level. The difficult challenge facing these institutions is to help meet the needs of an economy attempting to grow and

Current trends

carry out the transition from subsistence based on a cash-crop agriculture.

From the early 1950s the American approach to assisting agricultural colleges and universities has been to use the Land-Grant model. The Land-Grant colleges’ triple function of teaching, research and extension was perceived as the ideal model for promoting rural development. Exported, the philosophy and practices of Land-Grant colleges are not without problems as they radiate certain biases of American agriculturalists.

Criticisms and evaluation

This survey reveals that rural primary schools serve at least three functions: (a) to teach both general and vocational subjects; (b) to teach the common core and prepare for further education; and (c) to integrate rural-relevant content with the teaching of the basic skills. There may be value and potential in each approach, but to date there is little in the way of hard data or even descriptive research to validate the approaches. A great many rural education pronouncements come from experts who, through experience or thoughtful meditation, or both, deduce schemes from theoretical assumptions. There is, in fact, a great deal of ‘conventional wisdom’ about rural education, but little objective research and evaluation.

Different projects achieve, by some mode of evaluation, success. But no criteria base seems to be evident. Thus when the experimental school gardening and poultry-raising project sponsored by the Khartoum Province Inspectorate of Education is said to have been successful, what does that mean? Yet through the aid of FAO and other international bodies, the project will be expanded in the next few years.

There is the question whether the content of the primary-school curriculum should be the focus of concern. Perhaps it doesn’t matter so much what is taught as the fact that the children are present. A variety of studies seem to show that independent of content, formal education can strongly influence development. Reduction of wastage rates perhaps should be the area of concern. Reduction of costs to parents, increased health and nutritional help, and value attached to education for girls need attention. Perhaps greater attention should be given to methodology, since a great range of intellectual patternings or approaches to problems can exist due to cultural heritage.

All future plans or even evaluations of present programmes should take into consideration the context of rural societies. Criteria need to be established around the role of the school in satisfying or reducing some of the stresses and strains of the rural condition. Thus just as rapid growth of population, limited financial resources, limited employment opportunities and fragile political structures are all rural characteristics, the success or failure of rural education should be matched with these. So far none of the programmes or projects examined for this paper seem to have been so matched. Nor has any other criteria been cited.

Current status and trends

It would seem that the new wisdom of rural development is in the integrated or ‘package’ approach. Typical of the new trend are the positions of Coombs and Griffiths. Coombs has stated:

For education to make its greatest contribution to rural development it cannot be developed in isolation . . . it must be tied to other forces of modernization area by area.

Griffiths concludes:

The schools alone are helpless in effecting any dramatic change in rural life. They can be effective only if they are part of an economic and social plan.
which (a) makes farming economically attractive, and (b) creates a sympathetic post-school youth and adult opinion to back the progressive aims of the school.¹

The idea is attractive, but before it is widely adopted, clearer conceptualizations of the approach are needed. Any manipulation of a system composed of many parts requires a great deal of knowledge. Systematic assessment of manpower supplies and demands should be made. Surveys of migration patterns should be made. A complete inventory of all educational activities, formal and nonformal, should be made to evaluate the usefulness of each separate activity as it fits into a coherent, logical functioning system. The enormity of the task and the deficiency of data, all point to the fact that the integrated approach will require more than we now know. Perhaps it should be an ideal toward which one works.

There is another approach, however. This brief survey suggests that there is a wealth of potential data on what is and has been done. A need exists for this data to be tied to theoretical models that might yield more useful guidelines for action. Malassis offers such a structure.² His categories, divided to help in the selection of the strategy to use in rural education, appear to be good points around which data can be clustered. Cultural and social research information for societies that fit each category can be set down side by side with educational approaches that seem to work in promoting particular goals. The case studies of societies where particular approaches have been successful could be used to help in the selection of the appropriate approach for the particular society and the particular goals desired. What is presently being attempted in various countries today can be the sources for new designs tomorrow. Analysis of the procedures now operating in rural education seems to point out that some methods are either ineffectual or not tolerated by the rural population. Rural primary schools that have a vocational/agricultural bias may be accepted by the rural population where the society is somewhat isolated from cultural contact or the expectation level is low. But where a tradition of schools acting as the vehicle for movement into a prestige position is high, the population apparently does not accept a vocational orientation to schooling. In fact, where the expectation level is high, secondary programmes of rural education tend not to be successful. As we indicated earlier some data seem to indicate that only after agriculture becomes attractive financially, or where employment opportunities decrease in the modern sector, will agricultural graduates move into agricultural occupations. More hard evidence like this will be helpful in deciding which types of new programmes to initiate, which ones to maintain, and which to phase out.

Education for rural development: forms and strategies

It is not our intention to make a full and detailed study of the different forms of rural education. I shall offer some observations on topics which my experience has led me to consider major ones. Rural primary education, vocational training, agricultural training, the education of women, the different forms of lifelong education, and teacher training will be dealt with in succession, mentioning the specific role of the audio-visual aids which may be used in the different types of training.

Observations on the main forms of education in rural areas

RURAL PRIMARY EDUCATION

Sixty per cent of the inhabitants of the earth are peasants, many of them illiterate. In the next few years, the basic education of farming populations will rarely exceed primary schooling. The aim of the primary school is first of all to teach the basic elements of reading, writing and arithmetic. The high percentage of repeaters and drop-outs shows that even these elementary objectives are quite ambitious. Of course, the teaching methods employed and the environment may help to explain this waste. Primary education does not always relate reading and arithmetic to the experience of the pupil: 'calculations in a vacuum' are made instead of attempts to 'quantify reality'. On the other hand, the environment is sometimes such that education for those intending to stay on the land is without meaning: once out of school, there is no longer anything to read, neither newspapers, nor books, and reading is often considered a waste of time by the adults. Primary education is stimulated in a changing society, checked in a stagnant one.

In addition to imparting basic techniques, primary school creates attitudes and ways of thinking which may exert a lifelong influence on the pupil. The outstanding characteristic of agriculture is that it uses biological (animal and vegetal) resources as its means of production. The fundamental attitude to be acquired is thus an experimental one.

The change of the technological agricultural model depends mainly on experimentation and demonstration. To prepare young people for technological changes means enabling them to appraise the effects of change. It depends on this

1. This article was written for a series of studies prepared for the International Commission on the Development of Education, at Unesco.
whether the ‘school garden’ may be an aid in
general training, and manual labour take on its
ture meaning. In the same way, the organization
of small-scale stock-raising, aimed at offsetting
animal protein deficiencies, courses in rural
domestic economy with a view to obtaining a
more balanced diet, may not only contribute to
the improvement of local living conditions but
also have a real educational value. But one must
be wary of deluding oneself as regards the vo-
cational scope of the rural school, even though
suitably qualified instructors, able to lead the
basic collective units, and working closely with
adults and extension services may play an im-
portant role in local advancement.

From the point of view of socio-economic
development, it would appear that the purpose
of primary education is to help the child affirm
his relations with nature (developing his powers
of observation and capacity for experimentation)
and other productive forces (notions of chemis-
try and physics), plus his relations with other
human beings (attitude towards his fellows). On
the other hand, it should make him receptive to
change.

Seen in this light, primary school has a gen-
eral educational mission which surpasses that of
imparting basic skills.

Pedagogically, this general training may be
based to a large extent on the experience of the
pupils and on the environment. If the pedagogi-
cal adaptation of general training is what is
meant by the ‘ruralization of primary school’,
one can only approve.

The fact is, however, ‘ruralization’ is often
used to designate something quite different and
in the most extreme instances the primary school
tends to be made into a tool of economic policy
and given the task of reducing the rural ex-
odus. That by means of an intelligent pedagogy
the primary school could show the nobility of
the peasant’s work, render it attractive, impart
receptiveness to change, and finally help draw
people to it is possible, under certain conditions,
and certainly desirable.

To want to give the primary school a regu-
lative function in over-all economic develop-
ment, however, is to condemn oneself to failure.
Setting up schools in rural areas, the revision of
programmes, etc., are not of themselves enough
to solve the problem of an unhealthy rural
exodus. The real solution lies elsewhere, and
any confusion in this matter should be scrupu-
lously avoided. In the course of the historical de-
velopment of the West, rural areas complained
of ‘the skimming of the country areas’, the de-
parture of the ‘best’, and in the developing
countries it is obvious that the farmers’ sons
will not resign themselves to passing their lives
on the land if they can avoid it.

The only real solution lies in the socio-
economic modernization of agriculture which
would offer farmers’ sons the prospect of satisfying
employment and standard of living. It is
clear that no sector of activity can hope to re-
tain the best if it does not offer them the oppor-
tunity of using their knowledge and energies,
and a way of life which measures up to their
ambitions. Without a socio-economic modern-
ization of agriculture the school contributes to
rural exodus: agriculture which has remained
backward has a limited capacity to absorb
educated persons. If institutional reforms are
carried out concerning agrarian organization,
product marketing, credit facilities, etc.—often
prerequisites of agricultural growth—and if ru-
ral youth have good reasons to stay on the land,
and can expect to lead a better life, then the
problem of revising school programmes will be
easy to ‘solve’ (F. Harbison).

A ‘good education’ is not enough to compen-
sate for the inadequacies or impossibilities of
the economic policy; on the other hand, the
educational system cannot further socio-econo-
omic development if political conditions ren-
der development impossible. Likewise, if the
programmes and methods of primary school
actually result in educational segregation, with
secondary schooling and training for senior pos-
tions being exclusively reserved to city dwellers,
this would constitute a humanly intolerable situation.

The task of the primary school is in fact to discover the brains which the nation needs for its development, and to guide the more gifted, whatever their social background, towards secondary education. The problem then arises of more appropriate selection criteria, i.e. the entrance examination or course of study required for admission to secondary school. We may ask how much space this course of study gives to biology and experimental activity requiring a type of mind and preparation particularly appropriate in rural youth.

We should not be surprised, then, if peasants, who have perceived that education may be (in their socio-economic circumstances) the only way for their children to rise in the social scale, protest vigorously and with right against any ruralization of the primary school which would reduce their children's chances of receiving a secondary education.

The efforts made in recent years to develop primary education have encountered difficulties and setbacks (for example, a high percentage of drop-outs). On the other hand, literacy campaigns by new literates have been disappointing. These and other considerations have led to the notion of the functional literacy of adults. Functional literacy is a method of teaching adults to read and write which is based on the needs they feel (motivation) and thus centres around their interests (work, higher standard of living, civic duties, etc.).

Primary education and functional literacy are not mutually exclusive, but rather complementary: functional literacy links parents to the work of the child and constitutes a solid basis for the advancement of the whole community.

VOCATIONAL AGRICULTURAL TRAINING

It may be advisable to distinguish, in the developing countries, between vocational agricultural training especially intended to provide practical training for future farmers and technical agricultural training primarily designed to train technicians for agriculture. In practice, vocational and technical training are often not distinguished from each other at the middle level. On the whole, agricultural training at the middle level is characterized by a great diversity in any given country: diversity of educational institutions, methods, programmes, length of courses, supervisory agencies.

Training in the middle level is neither integrated, nor functional, nor co-ordinated, and is far from meeting the requirements of lifelong education. Doubtless, this situation is the result of historical factors, the diversity of needs and efforts, the necessity of preserving a great flexibility in order to be able to adapt to a variety of physical and temporal conditions; nevertheless, an attempt must be made to order and organize it.

Vocational agricultural training may assume several forms: it may be provided within the framework of primary school, through longer or shorter trainee periods or in vocational schools. Its basic aim is practical.

Primary-school children may of course acquire some elementary vocational training, but primary school can never replace vocational agricultural training. If primary school has been able to develop an experimental outlook, make pupils receptive to change, and impart basic techniques, it will have prepared the way for a good vocational education. The latter should indeed strengthen the experimental attitude, and receptiveness to progress—but it ought to do more. It should make it possible to learn new techniques as the technological model changes.

In some countries, pre-secondary education has been divided into two cycles, the one corresponding to primary education properly so called, and the other to the middle school, more concerned with training of a vocational nature.

1. See further in this issue, the study by A. Gara and S. Boumaza, page 252.
This system has the drawback of providing vocational training for young people who, once they have returned to a more traditional environment, are in danger of forgetting the basic notions they have acquired before having had a chance to apply them. It also presupposes instructors with good basic training, supplemented by periodical refresher courses.

More satisfactory results can be expected when some of the instructors have specialized at the level of a zone, when there is active co-operation between extension and research agencies, when the instructor is a true leader of the basic collective unit, when vocational training of the young is accompanied by adult occupational training, etc. Finally, all of these conditions can only be realized in a small number of rural schools and thus could not form the basis for the implementation of a generalized change of the technological and, above all, socio-economic model.

Vocational training should thus be given to adults who, allowance being made for existing psycho-sociological structures, will be able to apply the recommended new techniques. Training may be provided through long- or short-term courses. These may be organized at the "critical moments" of the life cycles of the animal or plant species raised or cultivated, or determined in view of the length of the growing season, with a possible alternation of training and cultivation of the family plot.

Aimed at adults whose aptitude and abilities have been recognized by the services of agricultural organization or extension and whose age and conduct give them some influence over the traditional environment, the vocational school may play an important role in initiating processes of change. The essential thing is that the vocational school strengthen the adult's relations with nature and other productive forces, and also with his fellows. Co-ordination of rural-development services (awareness of development projects) and research, extension and sanitary services, etc., is indispensable.

The activity of vocational schools can if necessary be combined with functional literacy: learning to read, write and cipher are directly linked with learning and appraising new techniques.

**TECHNICAL AGRICULTURAL EDUCATION**

The basic aim of technical agricultural education, at the 'middle' or 'secondary' level, is to train 'field technicians' which evolving agriculture urgently needs. These are employees of extension, forestry and veterinary services, etc., technicians of food and agricultural industries, agrarian reform, food and agricultural product distribution, or credit organizations and cooperatives, etc.

Experience has shown that it is difficult to train these technicians by means of a 'management' in urban schools: this is owing to the time required to complete these studies, especially when a foreign language is used, and the frequent impossibility of setting up model or experimental centres close to urban institutions. But it is necessary to combat the unwarranted establishment of over-specialized schools, and the waste and manifold disadvantages which would be the result. A 'common stem' at all levels for farmers, stockraisers, forestry workers, specialists in rural equipment, veterinary medicine, etc., is justified by the fact that the same basic education is suited to them all, by the teacher shortage, the need to establish friendly links between the services, and the over-all conception of rural development.

Technical agricultural training may be short (first cycle of secondary education) or long (two secondary cycles), include specialized final classes, and possibly lead to advanced technical training.

In developed countries, the trend is to integrate technical agricultural training more and more into the general educational system: through its structures, programmes (equivalent level of instruction) and results (equivalent diplomas).
In the developing countries, inclusion of agricultural technology in the general educational system presupposes a coherent articulation of the system itself. But educational segregation should be opposed and the best technical agricultural students should be allowed to enter the university, at the risk of otherwise down-grading a type of instruction which is essential to the success of the socio-economic development.

The developing countries should also make provision—possibly through a combined effort—for the training of senior staff. There are sometimes two levels of higher education: full-length training which produces agronomists, veterinarians, etc., and abridged training which produces higher-level technicians or technical engineers.

The arguments in favour of all-purpose institutions are even more justified at the higher level; complete utilization of available means, establishment of friendly links between the various sectors of agriculture, the need for scientifically well-equipped teams, etc., lead to the setting up of ‘agronicom and veterinary complexes’. Moreover, it seems that the setting up of isolated complexes should be carefully avoided, and that they should rather be incorporated with the university, so that future senior personnel can obtain all university degrees, including the doctorate in the agricultural and veterinary sciences, as well as forestry, etc.

Through its system of higher education, the university should show its ability to adapt to the needs of socio-economic development. Available statistics reveal that the proportion of students enrolled in scientific and, particularly, agricultural departments is particularly low.

The Conference on the Future of Higher Education in Africa, held by Unesco in Tananarive in 1962, confirmed this situation and proposed that ‘the proportion of student enrolment in agriculture and related subjects might be raised from less than 4 per cent at present to as much as 8 per cent in the near future’.

EDUCATION OF WOMEN

All the kinds of education we have considered up to now should be co-educational. However, in many cases, women’s education poses special problems, and women in general are but slightly represented in the institutions which make decisions concerning agricultural education.

The Rapporteur-général of the First World Conference on Agricultural Education considers that two groups in the rural community will be particularly important in the coming years: women and young people. Here are his words concerning country women:

Both as agriculturists who undertake most of the food cultivation in many countries and also as mothers, their potential contribution to rural development is very great indeed. In far too many cases, this potential has neither been realized nor developed through providing access, on an equal footing with men, to agricultural education and training. Initial trials in the training of girls in agriculture, combined with home economics subjects, and using them in extension services and teaching have been most encouraging. A feature of this decade must certainly be to open the opportunities of technical and vocational education and training, as well as employment in rural services to the girls and women of the countryside in order to enable them to make their full contribution, both in the home and in the community. As an investment in development, it would be difficult to think of a more important need.

TYPES OF LIFELONG EDUCATION

We have mentioned that lifelong education could be of several types: access at any given moment of life to middle or higher educational institutions (with or without a diploma), rural leadership, training of active participants, individual or collective trainee programmes, etc.

Lifelong education for adults arises from a pedagogy for adults. From the point of view of socio-economic development, it follows from
adult occupational training focused on the group, and its content is determined by the tasks relating to the implementation of development.

It is based on the questioning of acquired knowledge, group discussion and research starting from objective information. Obviously, such discussion is never finished; it requires periodic trainee programmes and may give rise to extended training. It aims not only at training high-level personnel, beginning with men of wide personal experience who have shown themselves able to conceptualize their experience, but also in a more general way at discovering development leaders who exert a stimulating influence at various levels and in various groups from the basic collective unit to regional and national teams. It should not be forgotten that in the last analysis 'active participants', whatever their sphere of action, exert a decisive influence on the process of socio-economic development.

European experience of rural youth movements has shown the profitableness of group occupational training. Here reception centres for occupational training have enjoyed great, even though still inadequate, expansion in recent years. In the developing countries, where only a small proportion of the population has been exposed to formal education, it is obvious that occupational training will have a decisive role to play.

'Community development', conceived as an aggregate of co-ordinated training activities at the basic collective unit level and aiming at socio-economic development, may seem like a good approach. Being able to co-ordinate the activities of the various rural development specialists, the instructor, the specialist in adult education, employees of extension, rural home economics and co-operation services, etc., is important in itself. Nevertheless, community development does not become a reality until the community itself is able to take its own development in hand. It does this by showing its desire to organize its own development and co-ordinate technicians' activities according to

TRAINING OF TEACHERS AND EXTENSION SERVICE WORKERS

The success of rural education in its various aspects depends on the training of rural schoolteachers, teachers in occupational training centres, vocational training and agricultural technical schools, and extension workers. From the point of view of socio-economic development, taken as a whole, two groups of subject matter appear to be basic: (a) agricultural sciences; (b) human and economic sciences, as the socio-economic means of analysing rural areas and the process of development considered as a whole, i.e. as a technical, economic, sociological and cultural process.

In practice, the first group most often occupies nearly the whole of the programmes. But this instruction is often bookish, cluttered with scientific or pseudo-scientific knowledge, of little or no use. In addition, the programme is often influenced by more or less justified 'equivalence demands', by the pay-scales of the civil service which determine rate of remuneration.

The human sciences are also taught, most frequently in the form of rural sociology. But one may wonder whether this instruction prepares for a knowledge of the environment, if it
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allows research into the accelerating and de-
celerating factors of development, if it provides
the means for an analysis of the process of under-development. Of course, the analysis of the development process considered in its dif-
f erent aspects, is rarely taught coherently. There
is at present no manual available on the subject.  
If we consider it desirable to make development
a basic objective of the educational system, it is
obvious that the educational system should teach development: a major effort should there-
fore be made in this direction.

Of course, many other problems also arise in connexion with teacher training: their back-
ground, selection processes, training methods,
career, etc.

THE ROLE OF AUDIO-VISUAL AIDS

It is generally considered that audio-visual aids
should play an important part in the various
types of training, but their actual role is most
often of limited scope and in many cases they
have still not been incorporated into satisfactory pedagogical systems. Nevertheless, research is
being carried out and some recent experiments
have opened up new prospects.

The mass media, in particular radio and tele-
vision, are powerful means of seconding the
work of teachers, extension-service officers and
leaders. Television in particular can exert a great
power of attraction and a structuralizing influ-
ence on the different forms of education in the
service of development.

In the developing countries, when the tele-
vision network covers the whole country, tele-
vision can support a large-scale group action
and serve as a means of informing and up-dating
teachers. Moreover, it can be combined with
radio, the cinema, and the press in order to
implement a co-ordinated multi-media effort.

Broadcasts can be received in the reception
centres by groups of some fifteen or so peasants,
assisted by a suitably trained leader. Instruc-
tional films or broadcasts should be conceived

with a view to giving matter for discussion
in which the leader can play an important
part, rather than as a series of recommendations
or instructions unlikely to arouse attention or
contribute to the progress of the basic collective
unit as an element of community advancement.

Recent experiments have clearly shown the
inadequacy of pedagogical research in this field.
Few specialists have been able to make progress
in employing the mass media in the service of rural development. There is no doubt that a gen-
eral survey in this area would be of great use
and might indicate the direction in which future research should be made. It seems that the mass
media could play an important role in the ad-
vancement of rural areas in coming years.

Strategy and development
of rural education

The basic idea is that education is a historical
‘category’ connected with stages of develop-
ment, and also a geographic ‘category’, connec-
ted with the social philosophy of the nations and
with the way of development they have chosen.
The strategy of rural education should thus be approached keeping in mind the historical context and the objectives of development.

There are many forms of underdevelopment,
as there are ways and rates of development. The
most general plan of reference would seem to
consist in distinguishing three stages in the pro-
cess of rural development: (a) the stage of sub-
sistence agriculture; (b) that of the commer-
cialization of agriculture; and (c) that of the industrialization of commercialized agriculture.

Each of these stages may be reached in an over-all socio-economic context differing from
country to country (private capitalism, State
capitalism, socialism) and by different forms
of socio-economic organization of agriculture.

1. Unesco is preparing a reference handbook, Agriculture
   et Processus de Développement: Essai d’Orientation Pédagogique, by Louis Malassis.
(capitalist enterprises, peasant farming, cooperatives, State farms, self-managed farms, etc.). The form of socio-economic organization has an influence on the educational system.

The fundamental principle is that before an educational system is set up, a preliminary analysis of the socio-economic situation and an appraisal of objectives should be made. This appraisal will serve as the point of departure for setting up a development plan for rural education.

**EDUCATION AND SUBSISTENCE AGRICULTURE**

In certain rural areas, subsistence agriculture clearly predominates and will continue to do so in the near future. This situation is met with in regions where there is strong demographic pressure, or which are far removed from consumer centres, or without satisfactory means of communication.

A subsistence economy is closely bound to natural conditions of production, most often based on biological energy, and many-sided labours. In practice, production is marred by manifold beliefs and constraints. Sometimes the soil itself may be relatively productive, but the productivity of human labour is always low and is especially subject to fluctuation, inasmuch as the size of the harvest depends mainly on natural conditions. Cereals are the staple crop and stock-raising but little developed. Diet and hygiene leave much to be desired.

A subsistence economy is associated with several forms of socio-economic organization: tribal, patriarchal, communalistic, semi-feudal or peasant. These are traditional forms in which the family, a hierarchic social structure, etc., may exert a strong influence on the educational system, provided it exists.

At this stage, typical of an agricultural economy which is underdeveloped and closed in on itself, what can the role and structure of the educational system be? The prime objective would doubtless consist in raising the level of economic well-being by a ‘modernization of food production’ and of the environment (village and dwellings) as well as by improving diet and hygiene.

Education should appreciably assist man in affirming his relations with nature: it is important that the peasant be helped to pass from a state of dependence on nature, to one of confidence to himself, accompanied by greater mastery over natural conditions—often a long, hard battle. All the more as modern means of combating pests and livestock parasites, and the other means of anticipating the vicissitudes of production, would entail purchase of products for which there is no money.

Education should help men develop their social relations, in particular through the organization of mutual aid schemes, collective undertakings and the execution of projects which are useful to the community (digging wells, building roads, schools, infirmaries, etc.).

Primary-school attendance will doubtless be low, the drop-out rate high, functional literacy difficult to implement, for the relative stagnation of the group does not encourage receptiveness to instruction. The school garden and the ‘kitchen’ can be of great practical importance. Through the former, vegetable varieties can be introduced which were hitherto unknown, although sometimes easily grown. The organization of stock-raising on a small scale may be of great significance as a means of increasing the supply of proteins. Home economics training can play an important role in improving diet.

It will be realized that at the level of subsistence agriculture, the main tendency is to help realize the basic aims of a human economy: to feed and care for, and also free men from any traditional dependence on nature or other men. The ‘ruralization of primary school’ is most acceptable at this stage. Still, the school should not fail to detect the intellects the nation needs and allow them access to secondary education.
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Vocational agricultural training is more difficult to implement at this stage and technical agricultural training should rather be directed towards the training of middle-level field technicians. In view of the stage of development, these technicians can only be employed by the State: they will mainly be active in the sphere of the extension services.

They will need much understanding, as well as the friendliness of the rural world in order to live in contact with the cultivators and help them in their daily struggle. Owing to the structures of the educational system, it often happens that these technicians are city men, characterized by an urban outlook, and sometimes have little aptitude for truly understanding and assisting the rural world. In view of which, it is peasants who have been trained by leadership and extension service methods who are called on to play a more decisive role in the development of the rural world.

At the level of subsistence agriculture, the rural home economics services could play an important role in the evolution of social well-being. Experience shows that these services have not been adequately developed. Most often the educational system turns ‘home economics’ into an undervalued subject. Women have little access to education, the extension services are directed by men, the rural environment and especially the peasant family are difficult to penetrate owing to the strength of religious, psycho-sociological, etc., traditions.

At this level of development, the aims of education are obviously quite different from standards inspired by Western experience. It is a question of helping the aggregate realize the basic objectives of a human economy, of strengthening its relations with nature and other human beings and preparing them, patiently and tenaciously, to accept certain forms of change.

Modernization of subsistence agriculture is often the primary objective of the educational system.

COMMERCIALIZING AGRICULTURE

In certain rural areas, commercial agriculture is either developing or already predominates. This may be a result of the introduction of commercial or plantation capitalism with a generally specialized type of agriculture most often aimed at the export market. The development of commercial agriculture against the background of a subsistence economy may also result from economic growth based on the expansion of non-agricultural sectors, which has entailed an increase in the domestic demand for food products. It may also arise from peasant farming when emphasis has been placed on exportable products, with a view to a better balance of payments, the obtaining of foreign currency needed to import equipment, etc.

In order to make commercial agriculture competitive, and able to provide foodstuffs for domestic consumption as well as for exportation at relatively low prices, and at the same time, ensure the raising of the peasants’ standard of living, those factors should be stressed which improve the productivity of work and the quality of the products. At the same time, modernization of subsistence agriculture should not be neglected, in that the peasants’ diet will be improved at the same time that the marketable surplus is increased.

Increasing productiveness and improving the peasants’ living conditions require technical improvement and often a radical change of the technological model: control of water supply, intensification and diversification of crops, introduction of new crops, varieties, livestock, methods, greater use of industrial aids to agriculture (fertilizer, fodder, pesticides, etc.).

Passage from a barter to a monetary economy should allow the farming population to increase its purchases of manufactured goods both for agriculture and for the home. Agricultural growth, in areas of traditional agriculture, often requires preliminary reforms as regards the agrarian structure, marketing channels, setting...
up of co-operative organisms and institutionalized credit, etc. On the other hand, in relation with newly acquired independence and the choice of a development pattern, certain estates formerly belonging to foreigners may be transformed into public property or self-managed plantations.

At this phase of the development process, the educational system should undergo a thorough transformation: it is after all to play a decisive role in the success or failure of the change undertaken. It is to be apprehended lest the educational system become directed towards the training of an élite, with little preparation, moreover, for analysing development processes, rather than towards training the true agents of change at every level of responsibility.

Rural development needs innovating agriculturists—trained under a strong occupational training programme—active participants, and youth movements, with the participation of women, generalists and specialist extension officers, agrarian reform experts, specialists in marketing, co-operation, credit, distribution, in the use of industrial aids to agriculture, in the food and agricultural industries, high-level planners, etc.

Lifelong education should be conceived as a part of an integrated, functional, coherent, agricultural education and a place made for it. Its aims should be aligned with those of development.

To make of agricultural education at this stage a closed, undervalued discipline, offering no access to other forms of instruction, is to bring heavy responsibilities upon oneself for the failure of rural development, and finally that of over-all development. Education, on the contrary, should be adapted to the goals of over-all development, include the imperatives of development in its criteria of selection and guidance, give the biological and human sciences the place they deserve, make plenty of allowance for the mechanisms of development—a major problem in developing countries—establish a technical humanism' answering the needs of men building their future, reject an alleged 'universal' education, which is so general that it is more likely to train men who are only able to bandy ideologies rather than work effectively in the real world.

This does not mean that the confrontation of cultures, methods and ways of development are not of great importance, and it is certainly necessary to reject all education based on a too narrow environment. But the educational system should make choices in relation to the historical conditions and the aims of development and avoid the pure and simple transfer of contents which are better adapted to other places and other historical conditions.

At this level of the development process, primary education and functional literacy may be greatly extended. The beginnings of change motivate both adults and children. Acquiring an experimental attitude becomes basic and the primary school may greatly contribute to creating a positive attitude towards nature. Vocational agricultural training then takes on its true meaning, and the setting up of a close network of extension service officers, supported by applied research and experimentation becomes indispensable. The training of technicians should remain practical but at the same time give more room to general education. The problems of farm management, product marketing, credit, co-operative development should occupy a more and more important place in the programme.

At a higher level, the training of technical engineers and high-level technicians to direct experimentation centres, supervise extension service officers, act as instructors, etc., becomes indispensable.

The adaptation of the university to development needs implies the setting up of biological, agronomic and veterinary complexes or schools to train senior planners capable of conceiving rural development within the framework of the over-all development process (see Figure 1).
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FIG. 1. Diagram of relations between agriculture and industry (all non-agricultural sectors) in a process of development based on industrialization made possible by agricultural growth. Over-all growth arises from agricultural and industrial growth (at a relatively higher rate) and from a process that transfers resources (men and capital) from agriculture to industry, made possible by the growth of agricultural productivity.

Industrializing Commercialized Agriculture

This is more the stage of advanced countries: it corresponds to the phase of maturity. Production reaches a high level in agriculture as in the other sectors of the economy. High productivity makes possible mass consumption; social mobility increases. The integration of the agricultural education system in the over-all system of education can then be completed.

In the developing countries, some rural areas or branches of agriculture may reach the stage of industrial production while others in the nation are still at the subsistence or commercial level.

This may particularly be the case with certain ‘plantation’ crops. These industrialized areas and their branches may require high technical competence and an elaborate scientific organization of work. Specific training should then be implemented entailing the participation of research centres, advanced production units, and trainee programmes abroad, etc.

The stages discussed in this survey correspond to a theoretical outline, whose object is to show clearly the need to adapt the educational system to the stage of development. But the latter should always be quite flexible and adapted to the different stages which may simultaneously exist in a given country. This leads one to think that a completed educational system should try to aim at once at national norms (set forth according to the goals of national development and of a nature to avoid social segregation) and towards regional norms (set forth according to regional situations and objectives).

The setting up of an agricultural educational system, or its reform, implies national and
regional planning of rural education: I have myself discussed programming techniques in a survey published by Unesco. Chapter XII of the *Provisional Indicative World Plan for Agricultural Development*, ‘Requirements and Policies for Progress, and Technical Manpower for Agricultural Development’, contains some valuable suggestions for the preparation of educational programming adapted to rural development policies.
One of the keys to success of a complex effort such as rural development is the proper planning of development activities, one of which is the education and training of rural people. This article seeks to contribute to the discussion on the fundamental issues involved in education and training for rural development, by drawing particular attention to some aspects of the planning of education and training systems in support of rural development as well as to the need for proper planning of the organization and work of individual institutions and services responsible for formal and non-formal education in rural areas.

Education and training for rural development takes many forms. It comprises the entire system of formal education operating in the rural sector, e.g. primary and general secondary education, formal vocational and technical education at various levels, and university education. Non-formal education and training, e.g. agricultural extension activities, community development and health education services, residential short courses for farmers, farmers’ wives and rural youth, similar training for artisans and craftsmen, education through mass media (radio, television, press) and through correspondence courses, club activities and other means, represent additional, and in many cases, more specific inputs into rural development efforts. In-service training of staff assigned to the various rural development services (education and training, local administration, research and experimentation, etc.) is also of concern.

Operational responsibility for the various activities mentioned is usually divided between a number of public and private agencies. Responsibility for formal education may be concentrated in a ministry of education and/or in ministries of rural development, agriculture, natural resources or land reform. Other institutions, such as some universities and a number of specialized vocational/technical schools and colleges, may operate under the direction of semi-public or private bodies.

With respect to non-formal education and training activities, the operational responsibility is usually the concern of many more individual agencies and groups. Government ministries, such as the ones mentioned above, may take the lead but important initiatives may also come from voluntary organizations, farmers’ groups, aid agencies, etc.

The education and training efforts of all these bodies are aimed at contributing to the advancement of the rural people in one way or another:

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1. The views expressed in this article are the personal opinions of the author and do not necessarily reflect those of the Food and Agriculture Organization (FAO).
general education prepares for rural life and for further education; vocational and technical education prepares for occupations and university education which is oriented towards the needs of the rural sector, for leading positions in administration, management, education and research. Non-formal educational activities are often directed towards learning particular skills which are important in connexion with rural vocations.

What has been said so far points to the fact that there are numerous variables which must be taken into account by those whose task it is to plan efficient education and training activities in support of rural development. However, the list presented is far from complete. Other important factors stem from the diversity of the potential clientele, the priority given to rural development as against urban, the relative importance attached to various educational activities, the extent of involvement of central government vis-à-vis local administrative bodies, the availability of resources in terms of people, natural resources and funds and of needs in terms of social demand and of manpower requirements for rural development. In view of this rather complex situation, readers will agree that it is impossible to advance 'advice' in the form of 'recipes' for the planning of education and training which would fit all possible conditions existing in rural areas of developing countries. Instead, reference will be made to a few broad guidelines and to a number of examples of positive experience with the planning of educational systems or parts thereof which may be of wider interest.

**Planning at the national level**

Planning involves, in the first instance, an analysis of the existing situation, the estimation of needs, marshalling of resources, establishing priorities regarding needs and resources, and working out a schedule concerning detailed inputs and expected results with estimated duration and dates of activities. Where, as in the case of education and training for rural development, many different agencies with different primary objectives and employing different strategies are concerned, a great deal of attention must be paid to the need for co-operation between these various agencies and for the co-ordination of their respective programmes.

Education and training is a very critical input into rural development efforts; in many instances its success or failure determines the outcome of rural projects, large and small alike. Yet education and training activities can only be successful if they are part and parcel of an over-all development strategy, i.e. if education and training is complemented by other relevant inputs such as the provisions of improved seeds, fertilizers, insecticides, credit and marketing facilities, extension advice, health services, adequate land-tenure arrangements and so on. A statement such as this may not be very comforting to some educational planners who believe that education is able independently and almost automatically to bring about substantial improvements in the quality of life. However, a farmer who has heard and is convinced of the value of fertilizer application, but is unable to obtain any or, more strikingly, a young man who has attended a two-year course in modern farming but who cannot obtain land, are typical cases where education and training has aroused unfounded hopes and has left people frustrated. It is therefore indispensable to integrate education and training activities in rural development efforts as a whole and this integration must begin at the planning stage.

One important prerequisite for planning of education and training for rural development is therefore a clear policy for rural development, setting out objectives, strategies and major action programmes, and showing the relationship between the key activities such as education and training, improvement of communications, agricultural marketing and supply services, com-
munity and health services and so on. Policy statements of this kind are often found in national development plans or in addresses by heads of State, prime ministers or ministers of planning, rural development or finance. Where such policy statements referring to all aspects of rural development have not been pronounced, an indication of what is involved as seen from the point of view of individual ministries, might be found in ministerial plans. However, these refer typically to the policy lines and activities falling under the supervision of these particular ministries only, and this in turn makes it difficult to view objectively rural development and its ‘ingredients’ as an entity by itself.

An alternative to using rural development policy as a point of orientation would be to look for a comprehensive statement on education policy and then to single out items of relevance in connexion with rural development. Yet again, one would, in most cases, have to refer to communications made on behalf of a ministry of education which would not normally cover the entire spectrum of education and training activities for rural development.

Under these circumstances, it is in many countries difficult indeed to expect the formulation and pronunciation of comprehensive policy statements on education and training for rural development from one of the conventional ministries. Unless this responsibility is assumed by an existing department on behalf of the country’s highest authority, a solution would, of course, be to create a new body capable of assuming the function of policy formulation and planning regarding education and training for rural development. A large portion of the duties of such bodies are already performed by so-called ‘national councils for agricultural education’, where these exist, e.g. in East Africa. The formation of such councils on which are represented the major interests concerning agricultural education and training, public as well as private, has been supported by FAO, Unesco and the International Labour Organisation (ILO), the three United Nations Specialized Agencies primarily concerned. Perhaps the time has now come to take a fresh look at this earlier recommendation with a view to widening the scope of these agricultural education councils, i.e. to make them responsible for all elements of education and training for rural development. The councils’ tasks would become much more complex, but at the same time, by keeping in view the entire range of education and training activities in the rural sphere as distinct from pure ‘agricultural’ education, more efficient support of the development efforts undertaken could be ensured, provided these bodies were in a position to influence decision-making at the highest levels of government.

A second important prerequisite for effective planning is the availability in each of the ministries primarily concerned, of administrative units to perform planning functions regarding those education and training activities for rural development which fall within their competence. Units of this kind function in some instances as part of a division of educational planning in ministries of education or, for example, within education and training departments of ministries of agriculture. In order to ensure the co-ordination of educational activities between the major Agencies concerned, even without the existence of the appropriate machinery, such units need to keep each other informed through informal working-level contacts across the border of individual departments and ministries. Otherwise, time and time again, it happens that different ministries plan and execute educational programmes in rural areas, with similar or complementary objectives, but without any co-operation between them.

Often, planning suffers from a lack of people able to perform planning functions. Without planners who possess the ‘flair’ for the job and command the most important planning techniques, any planning exercise will fail. Planners of education and training programmes for rural development need, in addition to the qualities...
of a general education planner, a thorough knowledge of rural life and development policy and of the requirements of the major development agencies operating in rural areas, in terms of qualified manpower to support their activities. Although it may sound like asking too much when qualifications in both educational planning and rural development are called for, it is most important to have, for instance, in planning departments of education ministries, at least one senior staff member who is able objectively to assess the basic educational requirements in rural areas and, at the same time, to arrange for special treatment of rural schools in response to the educational needs of rural development.

The planning process

However well an administrative set-up is conceived to accommodate the planning of education and training for rural development, and however well planning units are endowed in terms of staff, facilities and funds, the usefulness of their work will be measured by the extent to which planning results are turned into successful action programmes. In some countries, planning in the sense described above is still in its infancy. Where this is the case, it is most important, as rightly pointed out by Philip Coombs,\(^1\) to create an atmosphere of understanding for the need to plan or, in other words, to make all people concerned with the subject under discussion, 'planning-minded'. Thus, an important activity of the key people responsible for planning education and training for rural development is a continuing campaign aimed at convincing politicians, rural leaders, educational administrators in rural areas, etc., of the need for effective planning. This propaganda for planning must be promoted at the national level, but also at provincial and district levels and with respect to individual institutions. For example, members of the local advisory committee which assists the principal of a rural training centre to plan the teaching programme of his institution, must be convinced that planning and their own personal involvement in it is significant, otherwise there will be no incentive for them to attend meetings of the committee. There is no doubt that many boards and committees charged with planning functions for rural education and training suffer from a lack of appreciation of the need for planning on the part of their members. This is due, at least in some cases, to a certain amount of ignorance on the part of higher authorities who may not see the necessity of convincing people at the local level of the need for planning and consequently are unlikely to involve local interests in the planning process to the extent desirable.

Planning of education and training for rural development must serve definite ends. The frame within which it is to operate is dictated by policy considerations, as mentioned previously, and by the aspirations and desires of the rural people. Not surprisingly, the latter is often excluded from planning exercises, for the wishes of potential clients do not always coincide with manpower projections and similar forecasts for the future. Yet most non-formal education and training programmes would be condemned to failure if they did not respond to the demands of their clientele. Best results are achieved where rural development goals and personal interest of potential students go hand in hand, as, for example, in a milk-production scheme, with farmers keen to learn about modern methods of handling and feeding dairy cattle. The same applies, though in some cases to a lesser extent, to programmes of formal education.

Rural development is a long-term dynamic process. It does not happen overnight nor is it static as regards objectives, strategy and programmes. Hence, planners of programmes in support of rural development must constantly

be in touch with what is happening in the rural sphere in order to be able to assess what might be demanded of them in future. This forward-looking approach is particularly important in respect to the planning of formal education and training programmes, with rather narrow objectives, which may require a long time to mature. An illustrative example would be a programme to train supervisory and specialist staff for the national agricultural extension service in support of particular aspects of rural development, such as measures to improve crop protection, soil conservation or animal health. Staff in this category need, in large part, to be trained to post-graduate level which takes some five to seven years from the time a student enters university. Thereafter, a further one to two years may pass until the new M.Sc. or Ph.D. is able to contribute effectively to the solution of local problems. Too often, the time element involved in education programmes is not sufficiently taken into account at the planning stage. This is all the more important in cases where the success of large-scale development efforts hinges largely on the availability of qualified personnel, in sufficient numbers, at the right time. On the other hand, the dynamic nature of rural development requires educational programmes supporting it to be planned in a way which makes it possible to adapt them to changing conditions. This aspect must, in particular, be taken into account when plans are made for the physical facilities serving educational institutions.

The planning of educational programmes of shorter duration in response to clearly defined development needs can more easily take policy goals and individual desires into account than can long formal education courses which usually have rather broad objectives. Take for example the case of mass campaigns to acquaint farmers with methods of disease prevention in animals or the prevention of new crop pests; these are educational programmes with clearly identified objectives, easily understood by those to be trained and of sufficient importance to command public support in terms of personnel and budgetary provisions. The main task of planning in such instances is to mobilize, often at short notice, the necessary resources, i.e. teaching staff and materials, meeting places, transport, propaganda and support from political and local leaders, etc.

In the context of this article, it would be quite impossible to describe in detail the various factors influencing the planning process or the procedures to be followed in particular situations. In the circumstances, it seems to be more promising to refer to some items of special concern within the framework of educational development for rural advancement. Those selected are related to the determination of the clientele, the planning of teaching content, teacher training and, lastly, the need for different strategies and support of rural education and training as against urban educational development.

The clientele

Traditionally, the clientele benefiting from education is, first of all, the primary-school-age population, plus a proportion of those going on to general secondary education and, still fewer in number, the university students. In some developing countries, this entire group may account for some 20 per cent of the total population—or even less. But the demand for more and better education, as expressed for example in slogans such as 'education for all', 'continuing lifelong education', 'education for development', has hitherto not been met. What is required from the outset, therefore, is the identification of target populations and the determination of the educational needs of these target populations. There is no doubt that planning of education and training for rural development has, in the recent past and will in the

future, become more and more complex. This trend is in large part due to a tremendous increase in the number of those to be trained and to the increasing diversity of the demand for education. It is no longer traditional formal education alone which demands attention; non-formal education programmes for newly recognized groups, such as school leavers, drop-outs, rural women and youth, whether formerly educated or not, need to be developed, which will eventually contribute to a better quality of life through self-employment or paid jobs. Unfortunately, the magnitude and high cost of a programme of lifelong education for all identities against the provision of universal programmes. The selection of the clientele for both formal and non-formal education programmes must therefore be made according to a number of rigorous criteria, among which are the personal interest and likely benefit of individuals as stated before, but also national strategy, community interests and economic considerations. For example, short courses for farmers at rural training centres should be attended by practising farmers—not by youths of 10–13 years of age who may not be in a position to apply what they have learnt and whose training in such centres would be too expensive in relation to the expected benefit. On the other hand, the training of traditional leaders, politically important figures, women and youth leaders, rural administrators, village and district counsellors, active farmers and rural artisans should be given priority as far as non-formal educational activities are concerned. More emphasis must also be given to the need for more and better in-service training of staff serving in rural areas such as teachers, extension workers, health assistants, etc.

Curriculum planning and research

Curriculum planning is partly a function of authorities at national or provincial level, partly a function of the individual institution. At both levels, as has been stated before, the involvement of educators, major employers and the potential clientele must be ensured as far as this is feasible.

In the past, too frequently the scope and content of formal and non-formal educational programmes in rural areas was copied from foreign countries without much regard for the local requirements. This has happened for instance with formal training of young farmers, the teaching of agriculture in secondary schools, university education in agriculture and related subjects, training programmes in rural trades, etc. In at least some of these cases, the planners of such programmes could be blamed for the resulting failures. This experience suggests that the utmost attention must be given to analysis, as detailed and accurate as possible, of the specific purposes which rural education programmes are to serve. The analysis which ideally would precede the initiation of any programme should also include an assessment of the likely benefits accruing, on a long-term basis, to the students undergoing training and in relation to the community, province and/or the State. In some cases, this type of planning work may involve socio-economic surveys on some scale, investigations of a technical nature, the establishment of evidence of political support, the assessment of the interest of and the ability to apply new knowledge on the part of potential clients, the determination of job opportunities, etc.

Of course, it is not always possible to start off with such basic work however important it may be, because of pressure for ‘action’ rather than ‘project preparation’ and because of lack of funds or staff to do the necessary research. While this may happen, it should not be regarded as inevitable. On the other hand, curriculum planning is a continuing process which requires evaluation on a continuous basis if the content of teaching programmes is to maintain a relation to the (changing) objectives set for
Planning aspects

them. The evaluation of existing programmes may to some extent substitute the preparatory assessment of needs before a programme starts. In order to arrive at evaluation results as a basis for an improvement of existing programmes and for the planning of new ones, a good planner will always try to involve a wide cross-section of people interested in it; for example, teaching staff, major employers, local leaders, farmers, graduates and students. Both pre-implementation research and evaluation exercises of ongoing and completed rural education programmes suffer from a severe lack of accepted methodologies, especially regarding non-formal education programmes. Some international Agencies such as Unesco, FAO, ILO, the International Bank for Reconstruction and Development (IBRD) and a number of institutions in individual countries, realizing this deficiency, are working on this problem and there is hope that these efforts will bear fruit within the next few years.

Rural teachers

A problem common to many educational activities for rural development is the scarcity of able and motivated teachers. Planning must take this into account, which means that in numerous instances an extensive teacher-training programme has to be provided for before the actual educational programme can start. In some cases, not even the training of teachers is the first step but the training of those who will be responsible for teacher training. Such a situation may exist where the introduction of 'rural sciences' or 'agriculture' in the primary- or secondary-school curriculum is contemplated, in order to make it more 'development-oriented'. This would mean that educational activities must be planned at two levels in addition to the programmes to be introduced in schools, namely, training of teachers for these schools and training of teacher-trainers to serve in teacher-training institutions. One might say the problem of planning teacher-training programmes is rather similar—whether one is producing teachers in languages, mathematics or science subjects. This is probably true to some extent, but in the case of a new 'rural' subject, or if the aim is to make existing subjects 'rural-oriented', one of the major tasks is to arouse the teachers' interest in the problems of rural life and to motivate them to engage themselves personally in programmes aiming at the improvement of living conditions in the area served by the school. However, numerous teacher-training programmes have, in the past, over-emphasized 'academic' content at the expense of 'applied' content relevant to the rural environment.

There is no doubt that in a number of instances where the 'ruralization' of primary or general secondary education failed, one of the main reasons was lack of motivation on the part of the teachers. When planning such programmes, particular attention must therefore be given to this important aspect, for example through the provision of full and accurate information on rural life in all its facets including present constraints and future opportunities for improvement. Discussions on development policy and on actual programmes, with experienced extension agents, community-development workers and the like, should become integral parts of training programmes for rural teachers. Again, the arrangement of such briefing sessions, if taken seriously, requires the co-operation of those responsible for training inputs of all kinds, which normally does not come about without the unit or person planning the training programme taking the initiative.

Rural versus urban education and training programmes

A phenomenon observed in many countries is the relative disadvantage in which educational
programmes in rural areas and those promoting them find themselves in relation to urban educational activities. This unjustifiable state of affairs manifests itself, for example, in comparatively less public support, financially and otherwise, limited guidance and supervision from head offices, lack of incentives for teachers to serve in rural areas and, as a consequence, a generally lower prestige of rural education programmes. While it is in some cases difficult to give positive evidence of something which cannot be proved by facts and figures, educational planners must be aware of this situation and they must be prepared to do all they can in order to change it. One practical measure which has met with success in a number of countries is the granting of material incentives for teachers, extension staff, etc., to serve in rural areas; another would be to give them preference regarding the attendance of attractive in-service training courses, etc. But above all, policy makers and top administrators must be convinced that educational development for rural areas needs support in the form of special measures which may be unnecessary or less costly in the case of urban educational programmes.

Unless the planning of education and training programmes for rural development receives recognition and support from the various public and private organizations concerned, its potential contribution to national development cannot be fully realized.
As is now widely recognized, rural education is exceedingly unprepared to meet the pressing needs of rural populations in developing countries to adapt effectively and efficiently to the rapidly changing economic, political and social situations in these countries. How to increase the quality and span of rural education is a crucial problem not only from the viewpoint of educational policy or planning but also from the much broader viewpoint of national development, especially since the rural population occupies more than 80 per cent of the total population in most of the present developing countries. Although little attention has been paid to the importance of investment in rural education, its importance in the development of rural education cannot be emphasized too much. Based on my own field experiences—mainly in South-East Asia—I would like frankly but briefly to analyse the fundamental problems of investment in rural education in the present developing countries.

The rural education complex

Before discussing the problems of investment in rural education, one of the fundamental characteristics of rural education which affect investment must be briefly pointed out. Whenever any problem on rural education is discussed, we are accustomed to being confronted with the broad and intricate complex of rural education which covers several levels and takes many forms. Rural education deviates somewhat from agricultural education. In contrast to agricultural education which usually means formal education on agriculture including higher agricultural education, rural education implies formal education in agricultural secondary and vocational schools as well as agricultural education in primary schools. Besides this, rural education may also mean non-formal education, such as 4-H clubs for rural youth, farmers’ training for adults, functional-literacy education courses for illiterates, and educational activities through agricultural extension or community development services. In short, rural education is an involved complex which is apt to hamper any attempt at systematic policy formulation and make matters relating to rational investment difficult.

This directly leads to administrative problems relating to investment. Concerning rural education, in all countries the Ministry of Education is in charge of primary education and in
some countries it is in charge of agricultural secondary and vocational schools. In all countries the Ministry of Agriculture is responsible for agricultural extension services and in some countries it is responsible for agricultural secondary and vocational schools and rural community development. In some countries, however, the Ministry of Community Development or the Ministry of the Interior is in charge of community development. Moreover, agricultural extension service is sometimes carried out by altogether separate bureaux within the Ministry of Agriculture. For example in Thailand, extension service for rice production is regulated by the Department of Rice, non-rice crops by the Department of Agriculture, and farming in irrigated areas by the Department of Irrigation. In Indonesia, extension service for food crops is directed by the Directorate-General of Agriculture, and extension service for plantation crops is managed by the Directorate-General of Plantation. To further complicate problems, there is in fact little or no co-ordination regarding rural education among the ministries and bureaux concerned.

The various components of rural education can and should in principle be closely related to each other. For instance, agricultural education at the primary-school level should be planned in combination with 4-H club organizations, and rural community-development programmes should be implemented along with farmers' training programmes. Nevertheless, there is hardly any systematic planning at all in rural education, because of the aforementioned complex administrative structure. This makes rational investment in rural education difficult, resulting in misallocation or double allocation of financial resources, resources which are very limited in developing countries as will be discussed later.

### The pressing needs of rural education

My field observations indicate that the farmers themselves in most of the South-East Asian countries do not feel the need for education aspressingly as assumed by outsiders. For example, nearly all of the capable students in agricultural secondary schools in the Philippines are studying not so much to work in agriculture after graduation but to advance in higher education. They prefer agricultural schools not because they can learn agricultural subjects but because the tuition of agricultural secondary schools is lower than that of general secondary schools.

The governments of developing countries which accept the pressing needs of rural education are not so willing to put theory into practice. Some reasons for their reluctance can be easily enumerated. Budget constraint is the first; in addition, most of the governments are not in a position to consider fully long-term problems but instead are obliged to concentrate on short-term programmes. Furthermore, they are inclined to prefer prestigious projects such as the construction of universities to that of rural schools at grass-root levels. The lack of long-range systematic planning for educational development may be another reason, and still another is the failure of local people to voice their demands for rural education.

Nevertheless, the actual need for rural education is acute. The increase in population, particularly the increase in recent years, has resulted in an extraordinarily high proportion of young people in developing countries, pushing up the enrolment in schools. The United Nations estimate that in 1970 the percentage of the total population under 15 years of age in the advanced countries was 27 per cent, and 41 per cent in the developing countries.¹ Moreover,

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with the majority of the population in the developing countries living in rural areas where education lags far behind that of urban areas, the quantitative need for education in rural areas is much more severe than that of the national average. Although there are no quantitative data on the need for non-formal education in rural areas, it is well recognized that the ratio between extension officers and farmers is too low to introduce modern farming technology to farmers in developing countries. From my own findings, I have estimated the ratio in Indonesia as approximately 1 officer to 2,500 farm families. Nevertheless, in spite of the quantitative demands, a much more crucial problem is improving the quality of rural education.

The solution is, unfortunately, hindered by many factors. First and most important are the conditions that impede the recruitment of qualified and capable teachers, extension officers, and community workers. (a) Salaries are not attractive enough to draw good graduates to the field of rural education. (b) Most of the promising and ambitious graduates who are stationed in rural areas are always looking for posts in urban areas where they can not only get better salaries but also have access to larger facilities in the cities. (c) Training schools and in-service training of teachers are not well developed. This also applies to agricultural extension and community development officers. (d) Because of the rapid expansion of formal education, there is a lack of experienced teachers. (e) The poorly organized employment and promotion system discourages teachers and officers from devoting themselves wholeheartedly to their jobs.

Second, the management capabilities of rural education, namely in organization, planning, evaluation and supervision at the top level (central government), the middle level (provincial government) and the lowest level (local or county administration), can not meet the necessary challenges of expansion and improvement which are so essential to rural education. It is widely known that most of the planning agencies at the central level customarily neglect the area of rural education and that furthermore most of the officers in charge of rural education in the ministries are, on the whole, neither active, enthusiastic, well informed, nor experienced in rural education. These general characteristics are also applicable to management at the middle and lower levels. In some countries, I have observed that agricultural-extension officers are practically idle, often because they are completely without supervision from their senior officers.

Third, facilities for rural formal education, such as classrooms, dormitories, laboratories, libraries, school farms, equipment, textbooks and other teaching materials, as well as facilities for non-formal education, such as meeting rooms, vehicles, demonstration farms and other extension materials are conspicuously insufficient and inadequate. To make matters worse, the maintenance of facilities is terrible. In spite of their dilapidated condition, these facilities have to be retained for the increasing number of students and the expanding needs of agricultural extension and community development services.

Fourth, the drop-out rates and repeater years in rural schools are usually quite high. This is partly due to a characteristic of rural society where children are used as an important source of labour on farms and households. Although the goal is to have compulsory education throughout the primary-school level in all developing countries by the 1980s, this can not be realized unless the high drop-out rates and repeater years are alleviated.

Fifth, as is suggested in the World Bank's working paper on education, 'the persistence of institutional forms, school system structure, teaching methods and curricula derived largely from European practices of an earlier era and to a great extent irrelevant to present-day needs' is a problem which cannot be overlooked. 'In different ways, but with comparable effect, both the former colonies and the historically independent developing countries suffer from a
lack of responsiveness to changed conditions.\textsuperscript{1} This is true. For example, much to my dismay, in a country in South-East Asia, I found a United Nations Development Programme (UNDP) expert at a training course for teachers of agricultural secondary schools teaching the American farm-accounting method, which is entirely unacceptable to the small subsistence peasants of this country. Another observation I made is that agricultural secondary schools are financially supported by school farms which are rented to tenant farmers in the Philippines where land reform is taken as the most important and urgently necessary agricultural policy!

**Financial constraints**

Because of the rapid growth in school enrolment and the increasing need for non-formal education in rural areas, not only the number of enrolments but also the unit costs (cost per student in the case of formal education and cost per farmer in the case of agricultural extension and community development services) it is theoretically and practically possible to evaluate the productivity of investment in education through macro-economics, on the condition that the necessary statistics are available. This kind of study is highly valuable for economic analysis as well as for encouraging investment in education. However, carrying out a macro-economic analysis on developing countries may be difficult at the moment because of a lack of statistics on quantity as well as on quality.

Investment in rural education has much to offer. Rural education as a part of education in general should aim at national development, namely economic, social and political development. It has a triple objective. Its economic objective is to increase, to stabilize and to distribute equally the income of the rural population. Its social objective is to transform traditional society in which all occupations are determined by individual ability. Its political objective is to increase freedom by improving the capability of citizens to manage environments through rationalism, the application of science and the organization of society.\textsuperscript{2} Speaking more concretely, the objectives of rural education lie not only in the increase of labour productivity leading to the increase of agricultural production, but also in the increase of employment opportunities for the rural population, especially for rural youths in rural as well as in urban areas; they include improvement in the distribution of income between the agricultural and non-agricultural sectors and among farmers in different regions and in the same region. Investment in rural education should not be judged solely on the basis of economic productivity, but also on the contributions investments can make to social and political progress.

An analysis of economic productivity can, however, serve as a useful tool for two purposes, namely the allocation of resources and the inducement of investment in rural education. For these purposes, cost-benefit calculations on projects are recommended. Introducing not macro- but micro-economic analysis is preferable. We know very well that any cost-benefit analysis on each project depends upon many assumptions, some of which are difficult to express in quantitative terms. Still, it may be tentatively possible to make assumptions as practical as possible by the utilization of existing statistics and by making observations on the actual situation.

**Allocation and utilization of funds**

With limited funds, the method of allocating them must be carefully examined and planned

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\textsuperscript{1} World Bank, op. cit., p. 8.
Investment in developing countries from the viewpoint of economic productivity or cost-benefit calculation. Funding is allocated under three classifications: (a) between the education and non-education sector; (b) among the education sector; and (c) within the rural-education subsector. The allocation of funds can be planned and implemented only if there is close co-operation between the economic planning agency and the ministries responsible for rural education, both on the formal and the informal level. One way to solve the problem is to strengthen the planning agency at the central level. To strengthen the planning ability of existing ministries is a difficult task but to strengthen the planning agency at the central level and empower it with the co-ordination of ministries is a more feasible one.

Following allocation, the utilization of funds is a serious problem. It is difficult to know whether the funds disbursed to rural education in most of the developing countries are used as stipulated by governmental regulations. The basic reason for this situation is a lack of supervision in investment; not only is the supervisory system poorly organized but qualified administrators are also lacking at the central, provincial and local levels. Therefore, a workable supervisory system and in-service training for administrators is urgently needed. Unfortunately, this aspect of funding is disregarded by most of the developing countries.

Financial resources

Private contribution to rural education is very limited in most developing countries. An active private volunteer organization named the Philippine Rural Reconstruction Movement has established its headquarters in San Leonardo, Luzon, but its activity is limited because of financial resources. Although Buddhism and Islam are recognized as playing an important role in the religious education of South-East Asian countries, they are seemingly indifferent or irrelevant to rural education and sometimes even constitute an impeding force against the transformation of traditional rural society into a modern society.

For several reasons, I would like to advocate strongly the development of privately sponsored rural education. The government can not afford all the expenditures required for the future rural education. A part of the expenditures should be borne by the farmers themselves or by a private sector in order to reduce the burden of public expenditures as much as possible. Furthermore, if rural education depends entirely upon governmental expenditures, all rural education will be in the hands of the government and thus deprive the farmers of a sense of self-pride and self-reliance, concepts which are basic to the idea of rural education. Among several means of activating the private sector in rural education, the most effective would be to encourage a rural co-operative movement which would obtain financial resources as well as carry out the actual functions of rural education.1

Because rural education is entirely dependent on the central governments for its finances, this creates several problems. Except for a few developing countries which are organized as a federation of States, such as Nigeria, the provincial governments are financially weak, and thus regard the central government as their only source of funds for rural education. This centralized financial structure indeed has its demerits. The following are the most crucial ones. It deprives rural populations of the sense of self-autonomy which is vital to them. Second, governmental expenditures in rural education are apt to be used mainly for traditional or conventional projects. It is difficult to allocate funds for innovative projects. It is difficult to allocate funds for innovative projects which, although

drastic and risky in nature, may create a breakthrough. Third, because of limited financial resources and the practice of equal distribution among provinces, governmental expenditures in rural education are in general thinly distributed throughout the country. Consequently, the priority system, part of the development strategy, of allocating expenditures to problem areas where investment is most needed is usually not adopted. Unfortunately, essential priority policies which would considerably raise the economic productivity of investment are at present difficult to plan and implement.

The necessity of foreign loans

Because of the limited allocation of domestic funds to projects which would have significant impact on rural education, loans and sometimes grants from foreign countries or international institutions are beginning to play an important role as a financial source in rural education. These foreign loans had at first been used mainly for higher agricultural education, but are now used mostly for secondary agricultural education, agricultural teacher training as well as for farmers' training (disregarded until a decade ago). There are several advantages to foreign loans in the field of rural education. One is that they can be focused on a limited number of projects or pilot projects. They can be used to import equipment from abroad, which is difficult for developing countries which are suffering from a deficit in foreign exchange. In addition, in countries where authorities hesitate to increase expenditures for rural education because of limited revenues, foreign loans can supplement the domestic budget, thus providing incentive for future domestic expenditures in rural education. Since the results of investing in rural education appear some years later and since the rigid limitations of domestic financial funds prohibit adequate allocations, foreign loans in rural education accompanied by low interest rates and a long grace period for repayment would be most welcome.

Most of the developing countries in fact prefer to invest foreign loans in infrastructures such as transportation, communication and irrigation which bring higher productivity effect in the shorter term, rather than in rural education, whose productivity effect appears only in the longer term. However, they should seriously consider the possibility of using foreign loans in rural education, and pay much more attention to the effect of investment in the long term. In this light, I would like strongly to suggest that planning officers in charge of rural education should actively study the feasibility of obtaining foreign loans for rural education and negotiate with lending countries and institutions to obtain such loans. Previous experiences have shown that lending countries or institutions are anxious to provide loans but the borrowing countries remain passive, with the result that the loans are neither utilized as stipulated in the loan agreements nor followed by domestic funding.

Investment and technical assistance

From my own findings, I have found it best when investment in rural education is accompanied by technical assistance. One of the remarkable merits of foreign loans is that it can be accompanied by technical assistance not only in the planning stage but in all stages. Foreign loans, especially from international or regional banks, are provided after careful feasibility and appraisal studies, which are mostly carried out by foreign experts. This is partly because planning officers for rural education in the borrowing countries are not experienced enough to carry out these studies with the necessary efficiency. Thus, technical assistance at planning and implementation stages is indispensable, a point which should be taken into serious consideration.
Investment in developing countries

by both the borrowing countries and the lending countries and international institutions.

Technical co-operation should be accompanied by capital co-operation. Regarding rural education, many developing countries are receiving technical assistance from developed countries and international agencies such as Unesco, FAO and ILO. But technical assistance cannot be effectively carried out if sufficient facilities such as laboratories, equipment and vehicles are not provided by the assisting countries and Agencies. Although some facilities are provided in most cases of technical assistance, field experts generally complain that there are hardly any facilities that are sufficient and adequate.

Furthermore, technical co-operation and capital co-operation can be effective only if it is carried out on a long-term basis. In the late 1950s Unesco set up the Thailand Unesco Fundamental Education Centre (TUFEC) in Ubon in north-east Thailand, a backward but strategically important area of the country. When I visited this centre in 1961, I was much impressed by its well-planned organization and positive activities for rural education. I revisited this centre again in 1963 when the five-year contract between Unesco and Thailand had expired and the centre was being managed only by Thais. I was shocked to find the centre in a sleep-like state. Now, no one knows about the centre which had been so famous more than ten years ago. Clearly, a five-year contract for a centre in rural education is too short a period to expect the recipient country to run the centre on its own. Another reason for the failure of the centre was a lack of capital co-operation for semi-permanent facilities such as buildings and equipment. This shows that technical assistance must be an integral part of the whole programme. I believe that one of the basic reasons why such splendid accomplishments were achieved at international agricultural research institutes, such as CYMT in Mexico and IRRI in the Philippines, lies in the adroit combination of technical staff and capital investment on a long-term basis. This experience should be taken as a model for future investments in rural education.

Some suggestions for investment

Despite the crucial importance of planning, implementation and supervision regarding investments in rural education, the organization and quality of personnel who manage investments in most developing countries are far behind the required standard. Therefore, I again emphasize the crucial need for reorganizing the present administrative structures and activities in rural education at the central as well as the provincial level. Investment should give first priority to this field.

Second priority should be given to the improvement in quality of the teaching and extension staff. The development of rural education in Japan after the Meiji Restoration of 1868 owes much to capable, active and devoted teachers in rural areas who played a vital leadership role in introducing modern knowledge to rural society and who were highly respected by the rural people. Unfortunately, it seems that in South-East Asian countries the teachers in rural areas are not so highly respected. Investment should be used to meet this great demand to improve the quality and to arouse the consciousness of teachers so that they will become more respected and thus more effective in rural education.
Education for rural development: the out-of-school component in Africa

The key to development

In the modern State, education is not merely a social service. It is a necessary national investment; for it is the key to over-all national development. But education has two 'legs' neither of which it can afford to lose. Just as a person will find it difficult to walk on one leg, so will education without either of its two legs experience difficulties in performing the functions normally expected of it. Education's two legs consist of (a) formal and (b) out-of-school education.

By formal education we mean the regular classroom primary, secondary, technical, and university education. As its name implies, out-of-school education consists of the non-formal education and training, sometimes referred to as extra-mural or continuing education. It includes out-of-classroom youth education for schoolchildren and university students, literacy education, remedial education for drop-outs, technical and vocational training, extension services, health education, community development and continuing education at all levels and for various categories of people including top executives in government, industry and labour, etc. Out-of-school education is a neglected aspect of education. Often, it is looked down upon. When given, it is done on an ad hoc basis.

According to Archibald Callaway,\(^2\) it may be grouped into three categories: (a) preparation for occupations, e.g. carpentry, goldsmithing, cloth weaving, tailoring, mat-making, raffia-making, etc.; (b) on-the-job training; and (c) education for community improvement. This, according to Callaway, may mean creating receptivity to change.

Determining and meeting national objectives

In any modern country there must be some well-defined national objectives, the attainment of which will ensure economic and social progress, political stability and the general betterment of the total population.\(^3\) Unfortunately, either due to lack of well-defined national ob-

The out-of-school component in Africa

Objectives or due to ineffective execution of the national plan, there is a tendency on the part of many a country to concentrate on development programmes in the urban areas at the expense of rural communities and, in the long run, at the expense of urban communities themselves. Worse still, there is the tendency to concentrate on formal education to the utter neglect of out-of-school education. These lapses lead to lopsided development and disequilibrium which must result in tensions, disintegration and frustration which may result in resentment or in the usual drift to the cities, or worse still, in aggression and open hostility and resistance to constituted authority. We face this danger in many parts of Africa. Over 80 per cent of our people live in rural areas. Formal education alone can only drive them to the cities and result in the growing urbanization problems which are now noticeable in our cities throughout the continent.

Behind every plan there must be a sound philosophy, and aims and objectives must be clearly defined. It is on these that future evaluation will (and must) take place. We cannot over-stress one simple, but often forgotten, fact; namely, that 'a successful educational plan is one that does not remain on paper, but is carried out speedily and efficiently'.

Developing the whole community

Education must meet the needs of both urban and rural communities. It must also cut across all levels. For rural communities in particular, out-of-school education is a must. Since rural communities are inescapably interrelated with urban areas, uniform standards of education at all levels must be maintained throughout the nation. For example, scientific and technological education must be given in rural areas. Otherwise, our urban areas will merely constitute 'cases' of development. Modernization and modern techniques in agriculture and health must be introduced into the rural areas. We are told by demographers that by 1984, the population of Africa is likely to increase by 50 per cent over what it was in 1964, i.e. from 261 million to nearly 400 million. There is the danger that the rate of population growth will outstrip the rate of development of resources. Out-of-school education could be planned to avert possible social and political catastrophes which might result from a high rate of population growth and low economic development. Superstitions, unfounded fears, witchcraft and taboos which characterize rural life and make people conservative and less susceptible to new ideas and change can be eradicated. Training local tradesmen and technicians in basic science and technology of small-scale industries should prove helpful. We shall return to this later.

Forms of out-of-school education

Rural development may be enhanced through various forms of out-of-school education. (a) National youth service training. This may be a two-year integrated scheme of work and training. It can be used to create a pool of trained (and possibly armed) manpower. It may also be used to check unemployment among school-leavers, especially those from rural areas. One advantage of the scheme is that every citizen has equal opportunity for some general or technical education. Besides, the youth contributes in practical terms to national productivity. It is indeed an important form of education for national unity. (b) Correspondence education. Because of the heavy expense and the economies of scale involved, this should be taken up at the


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national level. In Switzerland, for example, there is a National Correspondence School for Primary and Secondary Education and a Technical Correspondence Institute which teaches higher technical subjects. Both are heavily subsidized. Provision for national correspondence schools at various levels will be a great leap forward in providing out-of-school education for young school-leavers and adults. No doubt, this will reduce the influx of ambitious youths to the cities. Many of our villages are deserted because chances for educational self-improvement in them are minimal or non-existent. A modified system of correspondence education, i.e. correspondence by newspaper, has been tried with some success in Uganda; library services (small and local libraries, art galleries and museums) also have their own functions. (c) Extension, adult and continuing education programmes. These may be vocational, technical or liberal education. In many rural communities, emphasis must be on literacy, with serious concern for work-oriented functional literacy. In any case, literacy education should not be limited to reading and writing. It must be geared to social and economic development. Continuing education may be geared to promoting improved agricultural methods and practices or improved methods of small-scale industries or management of small business. In some states in Nigeria, the supervised credit scheme has been tried with great success. Through this system, government gives loans to small- and medium-sized 'industrialists' and farmers. Technical assistance and management training are also provided. This scheme should prove beneficial to arts and crafts makers, metal workers, wood carvers, textile dyers, village carpenters, pottery makers, and other local entrepreneurs.

In almost any form it takes, out-of-school education can be boosted by the use of such media as films and filmstrips, radio, posters, tapes, tape recorders, etc. To facilitate the promotion of education, basic infrastructure of national development must also be provided in the rural areas. By this we mean the roads, bridges, and even electricity, water and telecommunications. But all these are expensive. However, we must emphasize that lop-sided development of any nation is worse than lack of development in any part of it.

Out-of-school education for whom?

The simple answer to this question is obvious—it is two words, 'for all'. But this may appear as begging the question. The Ghana Commonwealth Conference on Education in Rural Areas identified four categories of people:

(a) the un-schooled—those who have never been to school. For this group, literacy (or preferably, work-oriented functional literacy) must be given high priority; (b) the early drop-outs—those who had been to school but had not completed primary education. Among these we must step up programmes of pre-vocational education and training; (c) those at school—those who, although receiving formal education, would benefit from out-of-school education and training, both from their own point of view and from that of the community. For them we should promote programmes that will generate the community development spirit, for example youth clubs, scouting, young farmers clubs, etc.; (d) the school leavers—those who completed a fixed level of schooling but are unable to find satisfactory employment.

To these four categories we should add a fifth—namely, all adults with needs for continuing education in their professions, and for civic education, community service and general education.

1. R. F. Clarke, Correspondence Education Through a National Newspaper—an Experiment in Uganda, Kampala, Makerere University College, Centre for Continuing Education, 1968.
The out-of-school component in Africa

Allocation of resources

By now, perhaps most of us would agree that out-of-school education for rural development is not only a desirability but that it is also a necessity for over-all national development. We would also agree that as adult educators and in our own enlightened self-interest, we must do something positive about it. We must also agree that the provision of formal education alone in our rural communities—and even in urban communities as well—could prove more disastrous for the nation than providing no education at all. After all, today's national problems will not wait till our youths in the schools, colleges and universities are out. The youths too should be taught how to meet the current problems of the nation, even while many of them are still in school.

In our development planning, how rational have we been in the allocation of resources? Most governments in Africa spend between 20 per cent and 45 per cent of their revenues on education. Of these huge amounts, what percentage goes to out-of-school education? If we were more rational, what percentage should really go to it? Returns from seven states, in a recent study of literacy in Nigeria are shown in Table 1.

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The above shows a pathetic picture of literacy education in Nigeria. But although there are no figures to back me up, I dare say that other aspects of out-of-school education do not fare as well. In a recent article, Professor Ayo Ogunsheye gave the percentage of the total educational budget allocated to adult education as 6 per cent. He also hinted that the United States of America and the Soviet Union spend as much as 50 per cent of their educational budgets on the informal, out-of-school education of adults. 'In Nigeria, of the generation of primary-school children who completed primary six in 1965, 65 per cent had dropped off.' This means that more than half of the huge sums we now pump into formal education in that country would be wasted unless some strategy in form of out-of-school technical and general education could be employed to salvage this huge educational investment. There is no doubt Nigeria is not alone in this matter of irrational education priorities. To say the least, this great imbalance between formal and out-of-school education in many African countries is graver still when considered in the light of cost efficiency test per unit of national investment in education.

Rationalizing resource allocation

Let us consider this from two aspects—getting more funds for education as a whole, and getting a reasonable percentage of whatever we can get for education for out-of-school education.

Emphasis must be an integrated and team approach to national development planning. The planning team should therefore consist not only of economists and educationists, but also of agriculturists, engineers, etc. All ministries (or departments) of government as well as voluntary bodies and the universities must be...
involved in planning out-of-school education for rural development. From almost every ministry's vote, a reasonable percentage should go to out-of-school education, e.g. ministries of health, community development, public works and housing, etc. A co-ordinating machinery must also be designed. In the process, national priorities for rural and urban areas of the country will be decided.

In our technical age, out-of-school education can no longer be regarded as a luxury for youths or for the illiterate masses only. It must be provided for all persons at various levels and by various agencies—voluntary agencies, local authorities, government corporations, state governments and national governments. While the national government may provide basic infrastructure of development throughout the country, state or provincial governments could subsidize farmers, arrange supervised credit schemes and special training programmes. At every level, out-of-school education should be related to economic and social objectives, for example increase of manpower output, production of foodstuffs, industrialization, social and professional mobility, creation of additional manpower, diversification of the economy, developing positive values and attitudes, etc.

Let us repeat that the universities and other institutions of higher education should also be involved. Adequate arrangements for evaluation of out-of-school education and training programmes should be made from time to time at local, district and national levels. Such evaluation should include not only the economic, but also the social, political and cultural changes in order to ascertain the relative cost effectiveness of programmes.

At the national and state or provincial levels, government may use special taxation techniques such as tax incentives to public and private enterprises engaged in approved out-of-school education and training projects to promote the over-all national objective.¹ The April 1970 European Round Table on 'Integration of Literacy Programmes in Economic Development Projects' also recommended that enterprises submitting tenders for major contracts in regions or countries where illiteracy poses manpower problems, should estimate for—or otherwise mention—the cost of literacy or training programme constituting a vital condition for the efficient performance of the contracts'. This is obviously relevant to the African situation.

Legislation by national, state (or provincial) governments may be made to find funds. For example, industries may be required to spend a given minimum percentage of their profits on education and training. This part of the company's income will, however, be tax free. In 1959, Egypt went to the extent of making it the responsibility of business enterprises to wipe out illiteracy among their workers. Someone has said, 'illiterate women are dangerous women'. I think we would agree that illiterate men are just as dangerous if not more. It might be useful to examine the desirability or necessity for legislation of this type in achieving our national objectives.

In closing, I would suggest the establishment of national commissions on out-of-school education as well as state committees in those countries where decentralization may be desirable. In such committees, government ministries, corporations, industry, technical colleges, and the universities, should be represented. As hinted earlier, the universities should be given the responsibility for operational research, testing and honorary consultancy services especially with regard to planning, costing and evaluation.

¹ See the Recommendations of the 1969 Round Table of bankers, economists and financiers (cited in Voices of the World, published by the Institute of African Adult Education, University of Ibadan, September 1970). Also, the Government of Nigeria has just passed a decree encouraging private companies and industries to give up to 10 per cent of their profits to educational institutions and youth training organizations in the country. According to the decree, such gifts will be tax free.
The World Conference of Ministers of Education on Eradication of Illiteracy has also suggested that 'there could be established, in all countries, where such a step appears possible, a national foundation operating in co-operation with the government, and responsible for seeking, receiving and centralizing voluntary contributions from individuals, associations and private firms to assist the financing of literacy work'.

Various methods may be combined and various techniques may have to be used. The financial and other requirements are massive. However, I have no doubts at all that if we adopt the integrated-team approach to national-development planning, the necessary adequate share of resources which we must allocate to out-of-school education will be found.

Vocational training and rural development in Algeria

Agriculture is one of the main branches of the Algerian economy. It is divided into a progressive (self-managed) sector and a traditional private sector. The Algerian Government has set about putting a gradual end to this division so as to arrive at one single modern agriculture closely integrated with the activity of other branches of the national economy. Short-term, medium-term, and long-term measures have been taken for this purpose, particularly in connexion with the Four-Year Plan (1970–73) and in the Agrarian Revolution.

Better organization of the agricultural sector, the expansion of production capacities, increased employment, priority given to satisfying the country's needs, improved productivity: these are the five great guidelines in agricultural policy—with, one should add, the search for a better regional distribution of effort and results.

During the four-year period of the plan, which will end in December 1973, the most important thing has been to lay down the bases for development. This holds good for what concerns us here: agricultural education serving towards rural development.

Agricultural education

Agricultural education is at three levels (see Fig. 1): (a) vocational training; (b) secondary agricultural education; and (c) higher agricultural education.

Vocational training is directed entirely by the Ministry of Agriculture and Agrarian Reform. It particularly concerns the training of ancillary personnel working on farms, such as barn and crop overseers, pruners, dairymen and other semi-skilled agricultural workers. All ancillary technical staff must have completed the lower secondary course of general education.

Secondary agricultural education is divided into lower and upper. The lower-secondary course lasts four years, classes being held in the schools of agricultural education of the Ministry of Primary and Intermediate Education. It leads to the agricultural education certificate (brevet d'enseignement agricole (BEA)). At the present moment a reform which would transform these schools into 'technicums' (establishments providing an education planned in consultation with users) is under study. The upper-secondary course involves three years of study in the regional schools of agriculture (écoles régionales...
FIG. 1. Organization chart of the agricultural training system.
d'agriculture (ERAs)) and intermediate agricultural technological institutes (instituts technologiques moyens agricoles (ITMAs)), both under the Ministry of Agriculture and Agrarian Reform (MARA). This course leads to the agricultural technician’s diploma (diplôme de technicien agricole). Entrance into the ERAs and ITMAs is automatically open to holders of the BEA or the brevet d'enseignement général (BEG), or by competition. Pupils admitted to the fifth and sixth years of the lycée can enter the ERAs and ITMAs direct, missing the first and the first two years respectively.

For higher agricultural education, Algeria has at present the Institut National Agronomique (INA) at El-Harrach and the Institut de Technologie Agricole (ITA) at Mostaganem. The INA comes under the Ministry of Higher Education and provides an education, spaced over four years, that leads to the degree of ingénieur d’application. Recruitment for the first year is either by automatic acceptance of persons with the baccalauréat of secondary education or pupils of ERAs and ITMAs with the upper secondary agricultural certificate (diplôme d'études agricoles du second degré), or else by competition among candidates at an equivalent level.

The ITA, which opened in January 1970, comes under the MARA. Here too education involves four years of study: a first year of ‘technical training and familiarization with the environment’; a second year of ‘orientation’; a third year of ‘specialization’; and a fourth year of ‘job preparation’.

This institute prepares ingénieurs d’application for work in agriculture, using an active teaching method in which team work, continual evaluation, closed-circuit television, and courses of practical work on farms form the linchpins on which the system depends. Unlike the INA, the ITA has adopted the formula of mass training. In fact it turns out as many as 500 graduates a year, and now proposes to bring the annual figure up to 1,000. This has made it necessary to devise a very special training system, especially since students leaving this institute must be operational by the end of their course. They are recruited from among candidates who have gone through the sixth year of general or agricultural secondary education or have an equivalent grounding. All candidates have to pass a psychological and aptitude test and a test for determining the general level of education.

Whereas at the ITA and the INA girls and boys are recruited on equal terms, there is only one ERA to which girls are admitted, that of El-Biar (Algiers). As regards vocational training, a school where girls may train as rural instructors has just been opened at Bouchaoui (Algiers).

For this educational system to give maximum results the aims and purposes of training at all levels must be co-ordinated, seeing that the government intends to set up field teams capable of providing multidisciplinary instruction and advice and with all the necessary managerial personnel and technicians (of all grades) to enable them, for example, to supervise an area that is being brought under cultivation, to direct a multi-crop co-operative or to deal with any other multidisciplinary agricultural project.

The establishment of farms run by self-management committees, the reorganization of the private sector, the setting up and running of the new co-operatives that have been or will be created as part of the Agrarian Revolution require the training—and regular further training—of crop overseers and other personnel working directly on farms.

**Project Algeria/30**

**BACKGROUND**

The task of Project Algeria/30 (launched in 1966) is to organize a system of agricultural vocational training on a country-wide scale and to try out
an experimental agricultural extension scheme in a specimen wilaya (administrative unit).

The project includes experts in the different disciplines, namely: methodology of agricultural vocational training; use of audio-visual media; agricultural-extension work; large-scale farming; agricultural machinery; arboriculture; market gardening; vine-growing and wine-making; industrial crops (cotton, tobacco, sunflowers, beets); animal husbandry (cattle, sheep, poultry); farm management (book-keeping, management and co-operation).

These experts, who are at project headquarters in Algiers, are responsible for supervision of training at the agricultural vocational training centres (centres de formation professionnelle agricole (CFPAs)). Each expert must train an ‘opposite number’ or counterpart who will take his place when he leaves the project. Thirty CFPAs have been constructed throughout Algeria. A teacher-training school intended to provide staff for them, and also a small workshop for the reproduction of teaching materials have been established in the Algiers Jardin d'Essais. For the way the project works, it is helpful to turn to Figure 2. Some explanations of this are given below.

The system was devised in such a way that at the end of Project Algeria/30 FAO aid could be withdrawn, leaving in situ a system of agricultural vocational training that will go on functioning normally after the departure of the experts.

The experts must have counterparts and train them for the project by working directly with them. These counterparts are given fellowships for further training abroad. This feature of the project is represented in Figure 2 by square T1.

In the system established in connexion with agricultural vocational training, the idea has been for project experts to train vocational teachers in a special school called the Vocational Teacher Training Centre (Centre de Formation des Formateurs (CFF)). Each of

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FIG. 2. Accelerated training under Project Algeria/30—Training patterns.
these teachers in turn will pass on the experts’ training to those attending the CFPAs. This feature of the project has been represented by square T2.

In the CFPAs, the teachers give farm workers (crop overseers, dairymen, etc.) a suitable technical training, with the help and technical and educational support of the counterparts and experts. The trainees are recruited from among the rural population of self-managed and private sectors alike. Once they have the necessary training they must return to their respective farms to put the new methods or techniques they have learned in the CFPA into practice. This feature of the project, which is at the same time its end result, is represented by square T3.

As can be imagined, the number of CFPAs is inadequate; they have therefore to be supplemented by ‘practice farms’, which serve the same function as the CFPAs but for short courses, especially courses in practical skills (in the barn, the wine cellar, the fields, etc.). This scheme has many advantages, for people trained under these conditions come directly into contact with the realities of self-management farms and private holdings. This activity is represented by square T4.

Figure 2 shows that everywhere there is a closed circuit and that the role of the expert is temporary. In fact, if we eliminate the square representing experts the system should work in a normal way with nationals only. We may note in this connexion that the CFPAs do operate with exclusively Algerian staff. That, in our view, is one of the most important repercussions Project Algeria/30 will have on Algerian agricultural education.

THE SYSTEM SET UP

From the start, the experts have studied what types of position we are dealing with in agricultural vocational training. They have identified fifty-five different occupations: for instance, overseers of market-garden farms, plot overseers, book-keepers, workshop foremen, tractor drivers and mechanics, etc. The number of such posts grows as agricultural projects develop.

Since very often the workers involved are illiterate, it is hard to give them a thorough training in several different disciplines. It was therefore decided to give each of them a grounding in one narrow speciality—for instance growing early fruit and vegetables, growing fruit and vegetables in season, orchard work, work as vineyard overseer, and so on.

A CFPA, or agricultural vocational training centre, includes: (a) buildings (classrooms, workshops, boarding facilities); (b) teachers; (c) a farm of its own, and practice farms outside the premises.

Each of these three elements must be functional for a CFPA to serve its purpose. Classrooms and workshops are equipped with teaching material (a set of audio-visual material, felt boards, projectors), agricultural machines for learning on, tools for manual work, etc. Each CFPA must have material suited to the field in which it specializes.

There should be a high degree of permanence in the teaching staff, so that the teachers will be more familiar with the environment and better able to follow the region’s agricultural problems. It is hard to act on an environment unless one has studied it beforehand. The teachers must do reading in their subject so as to keep up with what is being done elsewhere and transpose to their own locality whatever may be adaptable. They also have the task of selecting the trainees, adapting the curricula to their level, actually training them and then following up their work on the farm so as to evaluate their activities. This follow-up means detecting what is done well and pointing out what is done badly, to fill any gaps there may be—in which case another programme of further training is prepared.

For the CFPA, farms are exactly what a laboratory is for the chemist or a workshop for the mechanic. They are of two kinds: a centre’s
own school farm, and the 'practice farms'. The former provides an initiation for the students, a way of showing them what they must or most not do—something which would be impossible on a privately owned farm, which is supposed to be economically profitable. This does not mean that the school farm need not be up to date: on the contrary, it must serve as a demonstration site for techniques which are to be developed throughout the region.

To make them proficient in practice, the trainees have been brought to work on self-management or private farms where they can be trained under actual working conditions, yet without affecting profitability and productivity, which are of prime importance to those who run the farm.

Teachers often visit these so-called 'practice farms' with their students, who work there like all the other labourers. For its part the practice farm derives certain advantages from these visits, for the teachers can frequently give useful technical advice to the crop or plot overseers, etc., though naturally the CFPA is not supposed to interfere in the management of a farm or the organization and planning of farm work unless its advice is asked for.

FROM AGRICULTURAL EXTENSION TO ACCELERATED TRAINING

Agricultural vocational training is, in the case of Algeria, a highly valuable element in agricultural extension. In parallel with what is being done in training, the wilaya of Tlemcen was chosen as a model for organizing an extension system. The experts, consultants, and counterparts have trained one or two extension workers per daira (sub-prefectures)—forty-two students in all. These young interns trained at the Tlemcen CFPA took up their positions at the end of 1972. Now it is a matter of following their work on the land and helping them adjust. It is too early to speak of results. But a complete study of the region has been made, an inventory of agricultural resources drawn up, and an extension programme worked out. Along the same lines, Algerian radio and television has programmes on agricultural extension. These broadcasts, which began several years ago, are apparently of enormous interest to country people. But there are not yet enough of them to have an effective impact on Algerian agricultural production.

Still in the same connexion, the Ministry of Agriculture and Agrarian Reform has just brought out the first number of its farming periodical, which is truly an Agriculturists' Guide.

Some CFAPAs have on their own initiative begun a bulletin so as to maintain links with their former students, a bulletin which is distributed in the self-managed estates. And the directors of agriculture for each wilaya, for their part, publish technical bulletins containing technical news, news of work to be carried out during the month, and messages from the warning stations of the Crop Protection Service.

Up until 1972 the project worked primarily for the socialist sector (self-managed farms). But at the beginning of 1972 the Algerian Government brought into operation the laws that had been passed to implement the Agrarian Revolution, which affects, essentially, the private sector, where technicians are most lacking. For this revolution to succeed the new structures must be provided with a sufficient number of sufficiently qualified middle- and lower-managerial staff. The project has been urgently requested to train skilled and semi-skilled ancillary agricultural workers in twenty-four CFAPAs that have been turned into technical centres for agricultural training (centres techniques de formation agricole (CTFAs)). This means recruiting people who have the certificate of lower secondary general or agricultural education and preparing them to staff future co-operatives, in the framework of the Agrarian Revolution. Work sessions with officials of the MARA's Technical Directorates enabled us to define the
most pressing needs, which are for 1,400 ancil-
{\textit{lary workers spread over various disciplines. To}
meet those needs, the experts and their counter-
parts drew up special curricula, in agreement
with the different heads of the MARA technical
departments.

Once again teachers were brought in to learn
about these curricula and about the specific
methods they should use in training these ancil-
lary personnel intended for the Agrarian Revol-
tion. General-education courses (language,
science, Agrarian Revolution, etc.) were left up
to local directors of agriculture. At this moment,
about a thousand personnel have already been
trained according to the methods advocated by
the project.

It is obvious that to train people who are
often illiterate or nearly so we must resort to a
teaching method adapted to local conditions.
The experts by themselves would not do for
this, because often the students must be taught
in their working language. So to transmit the
experts' messages to the students we bring in
ancillary personnel who are given the title of
vocational teacher.

In a country like Algeria which has only re-
cently gained its independence it is hard to find
national technicians in such numbers that one
can draw on them for persons who will fulfil
every requirement for success in the tasks that
devolve on these teachers. One therefore has to
choose from among the people who are actually
available the personnel most capable of being
trained and prepared for those tasks.

At the Vocational Teacher Training Centre
(Centre de Formation des Formateurs (CFF))
each student-teacher is supposed to receive an
education directed to two main ends: (a) trans-
mission of the message, and (b) mastery of the
technique.

For a teacher cannot play his part properly
unless he is capable of mastering the techniques
of his speciality and transmitting his knowledge
correctly to students, or it may even be to
overseers.

As regards transmission of the message, the
curriculum includes courses in active teaching,
in using and making audio-visual material (felt
boards, projector, retro-projector, etc.) and
in extension work (dissemination of technical
progress).

As regards mastery of technique, it has been
accepted from the outset that each teacher
should be given a specialized training in just
one of the following disciplines: cattle-raising,
sheep-raising, poultry farming, book-keeping,
growing of early vegetables, arboriculture, in-
dustrial crops (tobacco, cotton, beets), vine-
growing, wine-making, cereal crops, agricultural
machinery, agricultural extension, agricultural
coop-eration.

Each student-teacher, then, must be given a
complete grounding in his chosen discipline at
the centre, and also do practical courses. The
length of these depends on the level at which
he was recruited and his capacity for assimilat-
ing all that he has to learn. It therefore varies
between six and twelve months.

At the end of the course the student-teacher
is shown how to work independently, and then
trained in giving sample lessons: he is taught
how to find the documentation which will serve
him as a basis for preparing his courses and
practical work; he is shown how to prepare, on
his own, the technical outline sheets represen-
ting the plan and educational development of the
lessons he is going to give (practical work,
theoretical part, excursions, educational ma-
terial, etc.); finally, he is trained in giving model
lessons, first in imaginary classrooms, then in
real ones.

Once the teacher is assigned to a CFPA he
must begin to give the courses which have been
designed for him already or which he may work
out himself with the help of the local agri-
cultural authorities. Here again he is closely
observed by the expert and the expert's counter-
part, who visit him frequently and try to evalu-
ate the training he has received and the training
he is giving in the CFPA. During their visits

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they make note of the lacunae and flaws they find in the teacher-training course. Once a year the teachers are brought back to the CFF for further training in areas where they have shown weakness. In this way close and effective cooperation is built up among the expert, the counterpart and the vocational teachers.

By the end of Project Algeria/30, 250 such teachers will have been trained. Of course this number is far from sufficient for all the existing CFPAs, but from now to 1974 the regional schools of agriculture (ERAs) and the intermediate agricultural technological institutes (ITMAs) will pass out a thousand or more students, thereby making it possible to recruit new teachers.

As for accelerated training, that does not mean rapid training for a short period. If we look at the curriculum we ought to give a crop overseer, we find that we can provide it all in one piece within a fixed period and according to a fixed use of time, as in conventional training. But for the accelerated training advocated in Project Algeria/30 another approach has been chosen. First, we analyse the skills the candidate has on entering the CFPA. We already know the level he ought to reach at the end of his training there. The difference between the leaving and the entering level represents what he must actually be taught and must master. So we will correct part of his practical knowledge and skills, and introduce him to the new techniques he will find indispensable in his daily work. Moreover, we think there is no point in making him learn what he will never have occasion to put into practice when he goes back to his farm. What we have, then, is a utilitarian curriculum adapted to his job. Besides, it will easily be understood that the ability of an illiterate or nearly illiterate overseer to absorb new material is very limited. It is practically impossible to conceive of a long course that would not mean strain and boredom for him. We have therefore preferred the pattern of alternating courses. In the case of this overseer, the training programme is broken up into several cycles according to the crop cycle he is studying. He may go back and forth for nine months or a year. Furthermore, since he is considered fully trained only when he has assimilated the curriculum offered, the teachers have to go on to evaluate his work at his job by visiting the self-managed farms. When the weak spots they find have been reviewed, he is called back to the CFPA for whatever finishing touches are needed.

CURRICULA AND MEDIA

To meet qualitative objectives, we had to find an original system which would make agricultural vocational training an effective instrument in agricultural development. After some trial and error we came round to adopting the following method of work with a view to producing the technical and educational documents needed for agricultural vocational training: (a) First, the post the land technician occupies is analysed. (b) That done, the curriculum is prepared. (c) On the basis of these curricula, a curriculum for the teachers who are going to give courses in the CFPAs is worked out. (d) CFPA instruction requires educational and audio-visual material if it is to be effective; this material must therefore be prepared.

Job analysis entails studying and analysing the tasks the future students will perform on farms. A first approach to job analysis was made by experts and counterparts in the field. Next, we had to consult the technical departments of the MARA to know what orientation they wished to give the future students. On the basis of those data fifty-five job analyses were prepared and implemented. Other posts may also be studied in time to come, as new needs arise. Job analysis covers: the level of skill required; a description of the tasks the student is to perform on the farm; his degree of responsibility; and his level of recruitment. It also gives a concise résumé of the training the student must obtain and the length of the course.
Once the job analysis is in finished form, we go on to prepare the curricula. Each curriculum follows a logical progression and is put into outline form with several columns adapted to the active teaching method adopted in Project Algeria/30:

The first column shows the different stages of progress.
The second shows the practical work the overseers are to be taught to do and the observations to be made.
The third is reserved for analysis of and commentary on the subject under treatment.
The fourth specifies the place of training and the organization of the work.
The fifth lists the necessary material the teacher must use during his lessons.

There are at present some sixty curricula for training ancillary agricultural workers which we revise every year the better to adapt them to Algerian realities and to the new orientations prescribed by Algerian agricultural policy on rural development.

It is natural to base the teacher-training curriculum on the curricula for training the students. On the other hand, the teacher is going to have to deal with training for several posts, though himself a specialist in only one discipline. In all there are fifteen different technical curricula for teachers, apart from common curricula in active teaching, in accelerated training, and in use of audio-visual material.

After the job analyses and curricula, every expert prepares a teaching manual and technical brochures for the use of the teachers in his own discipline, on the basis of documentation, observation of actual farming, and consultation with research workers and other graduates who are working or have worked in Algeria. The teachers’ manual, which is the principal document for each discipline, consists of a loose-leaf assemblage of technical teaching notes and outlines. In most cases the teachers or counterparts have collaborated with the expert on it.

To make teacher training more easily understandable and more lively, it has been essential to conceive and create audio-visual material corresponding to the disciplines studied under the project. We have therefore made films (vine grafting, hand milking, hay-making, etc.), audio-visual sequences (slide-projection synchronized with taped commentary), bulletin boards, cut-outs on felt boards and retro-projector sequences (management book-keeping). But this material is only an aid, not an end, in education. Student-teachers are repeatedly reminded that the best audio-visual medium is the field, the land, the workshop, the barn, the farm in general. But under certain conditions it can be hard to find plant or animal specimens on a farm while the course is under way: that is when one turns to audio-visual media. In addition, the audio-visual sequences and films we have prepared are used at the outset of training to motivate the students and draw their attention to certain special aspects of a subject, while at the end of each course they are used to refresh the students’ memory of what they have seen in the field, barn, workshop or wine cellar. Always, however, the teacher is urged to use his own experience and initiative and try to combine crop and plant material, practical work, visits and audio-visual material when he prepares his courses. Here initiative is of the essence.

Adoption of this method has made it possible to train 15,000 ancillary agricultural workers. Most of them are working on the self-management estates as book-keepers, crop and barn overseers, and so on. The impact of technology is beginning to make itself felt, especially in growing of early vegetables, in cereal farming, in animal husbandry, in management organization, and in introduction of a book-keeping method.

The system of agricultural vocational training is already established and is operating with specifically Algerian managerial staff prepared and trained by modern teaching methods adapted to Algerian conditions. Of course the
task is far from finished. Much remains to be done. But the road is laid. The trained technicians on the farms have in their turn a training mission, for now they have become receptive to technical progress; it is natural for them to pass it on to those who are working with them, if only in the doing of daily chores.

Agricultural vocational training is part of the vast educational system we have just described. That system has certainly many weaknesses, but it has the virtue of being new and of being integrated into agricultural development. Algeria, like most other young countries, has no compunction about overturning concepts handed down from the past in order to devise, test and establish institutions which will meet her need for trained staff. Moreover, the system of teams is the basis for a co-ordination of the different structures for training staff at every level in one integrated set of training institutions able to meet the quantitative and qualitative needs of Algerian agriculture.
Short reading list on education in rural areas

For further reading, a short list of important recent works in this area is given below. The titles have been derived from a more extensive bibliography published in Unesco/IBE Educational Documentation and Information, No. 183/1972, to which readers may refer for supplementary information.

Approaches to rural problems. International social science journal (Paris), vol. 21, no. 2, 1969, p. 213-309. (Special issue.)


CHI-WEN-CHANG. Rural Asia marches forward; focus on agricultural and rural development. Laguna, University of the Philippines, College of Agriculture, 1969. 426 p., illus.


Education in rural areas in the Asian Region. Bulletin of the Unesco Regional Office for Education in Asia (Bangkok), vol. 5, no. 1, September 1970. 130 p., bibl. (Special issue.)


INTERNATIONAL FEDERATION OF TEACHERS ASSOCIATIONS. Education in rural areas and the democratization of

Prospects, Vol. III, No. 2, Summer 1973
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KIRFEL, B. Schulstruktur und Bildungschancen: deutsche und belgische Schulen im ländlichen Raum [School structure and educational opportunity: German and Belgian schools in rural areas]. Hannover, Schroedel, 1970. 154 p., figs., bibl. (Auswahl Reihe B. 38.)


MANNICHE, P. Rural development and the changing countries of the world: a study of Danish rural conditions and the folk high school with its relevance to the developing countries. Oxford, Pergamon Press, 1969, 525 p., figs., illus.


This bibliography has been compiled by the International Bureau of Education, Geneva (Switzerland).

EDITOR'S NOTE
In the forthcoming issue, Prospects will publish large extracts of the final report to Unicef on a major study entitled 'Nonformal Education for Rural Development: Increasing Learning Opportunities for Children and Youth' by the International Council for Educational Development under the direction of Philip H. Coombs.

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Twelve years later: 
the revision of the Addis Ababa targets

The last Conference of African Ministers of Education which was held in Nairobi in July 1968 adopted a resolution recommending: (a) 'that during the second phase of the Plan, the Addis Ababa targets be maintained as general objectives and that the qualitative improvement of primary and secondary education be stressed; and that Member States, while keeping those objectives in mind, bring them into line with national development plans; (b) that Unesco, in co-operation with OAU and ECA, prepare as soon as possible the documentation needed for a possible general revision of the previous targets, due account being taken of the true economic situation of the African countries and of the external aid likely to be available.'

As requested by this resolution, Unesco, the United Nations Economic Commission for Africa and the Organization of African Unity set about collecting documentation which could be of use, if the African governments so decided, for a revision of the Addis Ababa targets and, to this end, held two joint meetings, one at Unesco House in July 1970 and the other at Addis Ababa in September 1972, during which they agreed upon the plan for the distribution among the three Secretariats of the studies to be carried out. What purpose will be served by undertaking such a long and complex task? In order to answer this question, it might first be as well to call to mind what the Addis Ababa plan meant—and especially what it did not mean.

In 1960, seventeen African States achieved independence almost simultaneously and became Member States of Unesco on the eve of the eleventh session of the General Conference. They found Unesco as ill-informed about African realities as they themselves were about its programme and its procedures. It should be added that, in joining the Organization, they did it a very great service because, with its new awareness of the problems of developing countries, it acquired a new style of action and a new ethic of service. But it was necessary, almost without preparation, to lay the foundations of a concerted policy which had not been envisaged by a programme drawn up before the new States had appeared on the international scene. It was to meet this emergency that the decision was taken to organize a conference of African States on the development of education with a view to 'establishing an inventory of educational needs and a programme to meet those needs in the coming years'. The conference was convened jointly by the United Nations Economic Commission for Africa and Unesco in Addis Ababa in May 1961. It quickly became clear, however, that this conference, which brought together for the first time the ministers of the newly independent States and representatives of organizations or observers belonging to non-African Member States which were ready to give them assistance, offered an opportunity for a concerted effort which should not be confined to the establishment of a mere inventory or even of a programme. The Addis Ababa conference became a challenge and a commitment: the participants wished to impress world public opinion with figures intended to convey the magnitude of the effort which African governments and non-African donors of aid would have to make in order to provide Africa, in twenty years, with the educational resources so sorely needed on the continent at that time. This political approach had to be supported by statistical data: thus firm quantitative
continent-wide targets were set for the three levels of education in a programme divided into three phases as follows: 1965–66 (short-term targets); 1970–71 (medium-term targets); 1980–81 (long-term targets). These growth targets for school enrolment were accompanied by cost estimates worked out on the basis of certain hypotheses concerning the different variables of the over-all costs (duration of courses of studies, wastage rate, number of pupils per class, degree of qualification of teachers, etc.). Needless to say, the growth targets, as well as the cost estimates, which were worked out and often improvised at very short notice and on the basis of very rudimentary statistics, could only be very approximate. The figures thus arrived at made it possible, however, to give a reasonably accurate idea of the progress which had to be made and of the means required: this was the purpose and significance of the quantitative targets contained in the ‘Outline of a Plan for African Educational Development’. In the years that followed, although the outline plan included a number of recommendations on educational planning and curriculum reform, the adaptation of general education to the demands of vocational and technical training, and adult education, which were often very precise, it was on the set of quantitative targets that attention was primarily focused, to such an extent that these targets frequently came to be regarded, in discussions about the Addis Ababa plan, as synonymous with the plan itself.

The distortions an idea undergoes are all too often the price paid for its success. It cannot be denied that the Addis Ababa plan had considerable repercussions in Africa, that it gave rise not only to a remarkable spirit of emulation among the countries of that continent, but even to a real mystique of educational development, and that its stimulating effect on national efforts explains, to a very great extent, the astonishing growth in school enrolment at each level which has been observed in Africa in the ten years that followed the conference. But it must be admitted that this largely beneficial influence has sometimes been exercised in the midst of misunderstandings, the most common one being the belief that the Addis Ababa plan had intended to set national targets, whereas it had not gone beyond suggesting, as a desirable goal, an order of magnitude of aggregate national efforts in the continent as a whole: yet the various conferences of African ministers which followed the one held in Addis Ababa were anxious to ensure that the special circumstances of individual countries should not be forgotten because of a literal interpretation of the Addis Ababa plan. For example, the meeting of Ministers of Education participating in the implementation of the Addis Ababa plan (Paris, 1962) drew attention to the case of countries starting with the lowest initial rate of school attendance, which could not expect, at the anticipated annual rate of increase of pupil enrolment figures, to attain the regional targets. In 1964, the Abidjan conference, carrying the differentiation of regional targets farther, stressed the variety of national situations and recommended the ministers participating to ‘define the aims, methods and priorities of educational development in their countries, in the light of data concerning their general and educational development’. But, although there was a growing awareness of the specific nature of each national situation, the regional targets set by the Addis Ababa plan continued to be regarded as the yardstick of each country’s achievement in increasing school enrolment owing to the persistence of a habit which had arisen from a misunderstanding.

It was this misunderstanding that the ministerial conference held in Nairobi in 1968 undertook to clear up while at the same time taking note of several problems which had emerged since 1961: the fact that, in spite of spectacular progress, the targets set in Addis Ababa had not been reached, so that, in the words of the Director-General, ‘the primary school [was] going to lose the battle against illiteracy’; the re-
alization that many governments had exhausted the funds they could devote to education; the disappointment caused by the volume of external aid, which fell far short of expectations. When faced with the difficulties connected with rapid expansion it was easy to become so discouraged as to question the very idea of regional targets, and some countries were tempted to do so. The Nairobi conference opposed this tendency. In deciding that, during the second phase of the plan, the Addis Ababa targets should be maintained as general objectives, the conference followed the lead of the many delegations which had emphasized their stimulating effect, and agreed with the analysis made by the Director-General who had referred to their value as a spur to national efforts and as a frame of reference and a methodological instrument for the assessment of the results achieved at the regional level. However, the conference contemplated the possibility of a revision at some future date. The question this raises is far from being a straightforward matter. Even if there is general agreement on the value of the notion of regional targets, there is likely to be considerable disagreement as to how these should be revised. Such revision may or may not include a modification of the reference period of the plan. It may be made on the basis of the Addis Ababa targets or on the basis of national targets when they exist, or on the basis of estimates or projections for which data available at the national level have been used. It will be for the governments of African countries to decide —probably on the occasion of the next Conference of Ministers of Education of the region, which is due to be held in 1976—whether such a meeting seems desirable and, if so, on what lines it should be conducted. The role which Unesco should play, in close co-operation with the United Nations Economic Commission for Africa and with the Organization of African Unity, is to assist the governments to reach their decision by supplying them with the necessary documentation. These three bodies are currently working on studies, the results of which will be set out in a consolidated report to be submitted to African experts for their opinion before being laid before the ministers. But there can be no question of merely collecting raw facts and figures: data to be used as a basis for a possible revision of the Addis Ababa target can become significant only if they are presented in the context of reflections on the lessons of the past ten years, during which such a profound change has come about in the conditions, and the very meaning, of education in all countries, especially in Africa.

A revision of the Addis Ababa targets, if the African ministers deemed it necessary, must be more far-reaching than a mere adjustment of the school enrolment figures to be aimed at or of their growth rate; nor can it be limited to a modification of the hypotheses on which the total enrolment figures and the growth rates were based in 1961. It would be advisable not only to make use of much fuller statistical records and of far more sophisticated instruments than those available at that time, but also to turn to good account the progress made in the field of the analysis and understanding of educational development, as well as the lessons to be learnt, on this point, from the experience of the past ten years in Africa itself.

Quantitative expansion was the most urgent need in the ill-provided Africa of 1961, and this self-evident fact was reflected in the Addis Ababa plan. The very fact that so much remains to be done in order to reach the targets considered desirable at that time is proof enough, if proof were needed, that the course then outlined was fundamentally correct. But the general principle, now beginning to gain acceptance, that growth is not an end which can be isolated from the quality of what it produces and from the contribution its products make to social harmony and human happiness, applies also to education. In this respect, there are three things to be learnt from the first phase in the implementation of the Addis Ababa plan.
First, quantitative expansion does not by itself, unaccompanied by corresponding efforts to achieve quality, solve all problems: among those which remain are all the problems of adapting education more satisfactorily to the physical, cultural, socio-economic and political environment in which it operates and, more fundamentally, the problems of its ultimate ends.

Second, the quantitative expansion of school enrolment, far from sufficing to solve all problems, in fact creates new ones: not only the obvious ones of unemployment among young people who have neither a job to go to nor any prospect of continuing their studies once they leave school; not only the subtler phenomenon of the change in the nature of a form of education, and in the value of the certificates or diplomas to which it leads, in consequence of the change of scale brought about by its growth; but, more simply, the falling off in quality which has often, and increasingly, been brought about by expansion when it has taken place before enough qualified staff have been trained, suitable administrative structures have been set up, and appropriate methods have been developed.

This last problem created by quantitative expansion brings us to the third major lesson to be learnt from the past ten years of educational development in Africa: qualitative improvement is a stage in, and a prerequisite for, the quantitative expansion of educational systems. The wastage rates that have been noted, resulting from dropping out and repetition, especially at the primary level, entail such high unit costs per pupil that many governments, whose expenditure on education sometimes represents as much as or more than 20 per cent or even 25 per cent of total public expenditure, consider it impossible to achieve the Addis Ababa targets—or to hope to achieve them in the foreseeable future. These wastage rates, however, are merely the statistical reflection of malfunctioning of the education system. It is therefore only by an effort to deal with the causes of these malfunctions, that is to say by qualitative improvement of the systems, that there can be any hope of imparting fresh impetus to quantitative development and making it effective. In other words, the expansion of education in Africa in the coming years can be neither linear nor repetitive: no revision of targets would be meaningful if it assumed the acceptability of mechanically repeating existing patterns, without an effort to think out educational systems afresh—an effort, which, incidentally, has already been started in many countries.

The changes occurring in African education systems over the last few years have taken them further and further away from the structures inherited from the previous administering powers and made the need for adaptation obvious, thus highlighting the specific features of each individual nation’s situation. This is, incidentally, one of the reasons for looking again at the Addis Ababa targets, which are becoming less convenient for reference as countries move further away from the common models which, at least implicitly, served as terms of comparison. It seems quite clear that two things have to be borne in mind if revision of the Addis Ababa targets is to mean anything: first, the yardstick for evaluating progress achieved at the regional level needs to be improved, and this is a function which would be as useful as ever against the background of increasing differentiation between national systems; second, and this is connected with the first point, minor adjustments and partial innovations cannot, in most cases, be usefully applied to the national education systems, which require over-all replanning in terms of the aims set for them by governments in the context of national education policies. The qualitative targets which will provide guidance for the reform of education systems, and will profoundly affect their structures and curricula, and the methods and means used, are bound to bring about radical changes in the premises on the basis of which quantitative targets are set and progress evaluated. Hypotheses based on a traditional type of
system, essentially school-centred, with three levels, will probably have to be considerably revised in order to take account of the real features of new structures—differing moreover from country to country—which will in all likelihood be based on the principle of a continuing process of education. These structures would include levels or types of education and training which do not exist at present but which are necessary, for example, to fill the gap between the end of schooling and the start of employment, and to allow for refresher courses, retraining and recurrent training; and would make wide use of out-of-school educational media. The choices made with regard to the use of the various resources of educational technology will also naturally have implications affecting not only investment and recurrent expenditure but also the number of teachers and their type of training. Estimates in this field, incidentally, will have to be based on a much wider range of categories of educational staff than has been usual in the past. New views on how formal and informal education should complement one another, on relations between teacher and taught, on teaching methods and curricula, and on technology, will also have their effects on the size, equipment and use of educational premises, the siting of which will have to be given fresh thought with a view to making better use of resources and seeing that education is more readily available to all.

Revision of the Addis Ababa targets would not therefore in any way imply a retrospective condemnation of the approach, adopted twelve years ago, that has made such a large contribution to the remarkable expansion of school enrolments, without which it might not have been possible to do anything: it would, on the contrary, indicate a determination to make the 1961 achievement more effective. Since that date more, and better, means of apprehending reality have become available: educational statistics and research, and educational planning itself, which is no longer merely a question of projecting, estimating or quantitative forecasting, but springs from the concept of an educational sub-system, all the components of which are interrelated and to which systems analysis can be applied. It would, in any case, be unjust to regard the revision of the Addis Ababa targets as a passive recording of the inadequacies of an outmoded point of view. It is, perhaps, one of the merits of the Addis Ababa plan that, as the almost unprecedented growth in African systems of education proceeded, it brought to light, or set, problems which educational planners and research workers now have to study in depth to prepare the way for further progress. To take just one example, it was because of the high wastage rates observed in Africa that Unesco included this problem, which is of world-wide importance, in the agenda of the thirty-second session of the International Conference on Education. The revision of the Addis Ababa targets will thus be seen not only as a proceeding necessitated by the natural tendency to evolve of any human undertaking, but also as a contribution to the study of educational development and to a fresh approach to problems, which is seen to be necessary both in Africa and in the other regions of the world.

René Ochs
Director, Division of Curricula and Structures, Unesco
Public expenditure in the world, 1967–69

We are constantly hearing of financial crises, reading of changes in currency rates, experiencing budget restrictions. It might be useful at such a time to take a look at the attitudes of the world’s governments to education in money terms and to compare them with their attitudes to competing activities. We have therefore made an attempt to calculate the expenditure on education and the priority allocated to it when compared with other sectors of public activity, such as military expenditure and public expenditure on health. We are presenting figures for three years so as to give a time series. Table 1 summarizes the world situation between 1967 and 1969 broken down by the major regions.

In 1969 it appears that some $191,000 million were spent by the government and other public authorities on military purposes, $146,000 million on education and $72,000 million on health, claiming 6.8, 5.2 and 2.6 per cent respectively of the world aggregated GNP. As can be expected, Northern America and Europe (including U.S.S.R.) spent the highest proportions of their GNP on military purposes (8.3 and 7.3 per cent respectively), rates which are well above the proportions allotted to education (6.5 and 4.8 per cent respectively) or to health (2.7 and 3.2 per cent respectively). On the other hand, the proportion allocated to education was greater than the proportion allocated to military purposes in Africa, Latin America, Asia and Oceania. In the Arab States, for obvious reasons, military expenditure was considerably higher than education or health expenditure.

Over the three years covered, the proportions have not changed dramatically but it is encouraging to note that whereas the military proportion has begun to fall (7.1 to 6.8 per cent), the education proportion has risen (4.9 to 5.2 per cent), as has now the health. This is due primarily to these very trends that are taking place in Northern America which accounts for over a third of the world’s GNP and has both the highest military and education proportions of any region. The absolute amounts spent on education have risen since 1967 for all regions, but of course this does not take into account the effect of inflation on the real goods and services supplied. All regions except Asia and Africa have increased their proportion.

A distinction between developed and developing countries shows that in 1969 the former spent, on average, 7.2 per cent of their aggregated GNP on military purposes, 5.4 per cent on education and 2.8 per cent on health. When comparing the absolute amounts spent on military purposes, education and health, one notices that the developing countries accounted for only a small fraction of the total. However, in terms of their own small aggregated GNP they spent 3.4 per cent on military purposes, 3.3 per cent on education and 1.0 per cent on health. It is interesting to note that whereas the developed countries are spending a decreasing proportion of their GNP for military purposes, the developing countries are spending an increasing proportion. Every country has the right to repeat the mistakes of others but it would seem that in terms of priorities something is going wrong.

In spite of the absolute increases in educational expenditure in the developing countries, the gap between developed and developing countries is constantly widening. In absolute terms all the developing countries in 1969 accounted for only 7.5 per cent of the world’s public expenditure on education, compared to 7.6 per cent in 1968. Educational disparity between countries as well as within countries is
one of the most divisive factors in the contemporary world and it is tragic that this disparity increases daily.

An attempt has been made to estimate the percentage of the national budget that is being allocated to education in the developing countries. It was possible to do this for more than three-quarters of the developing Member States in

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**TABLE I**

Gross national product (GNP), military expenditure and public expenditure on education and health, 1967-69 (in U.S.$)

<table>
<thead>
<tr>
<th>Major region</th>
<th>Year</th>
<th>GNP Million $</th>
<th>GNP %</th>
<th>Military expenditure Million $</th>
<th>Military expenditure %</th>
<th>Public expenditure on education Million $</th>
<th>Public expenditure on education %</th>
<th>Public expenditure on health Million $</th>
<th>Public expenditure on health %</th>
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<tbody>
<tr>
<td></td>
<td>1967</td>
<td>2,392,900</td>
<td>100</td>
<td>170,165</td>
<td>7.1</td>
<td>117,800</td>
<td>4.9</td>
<td>58,655</td>
<td>2.5</td>
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<td>1968</td>
<td>2,587,000</td>
<td>100</td>
<td>182,660</td>
<td>7.1</td>
<td>129,100</td>
<td>5.0</td>
<td>65,265</td>
<td>2.5</td>
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<tr>
<td></td>
<td>1969</td>
<td>2,819,970</td>
<td>100</td>
<td>191,100</td>
<td>6.8</td>
<td>146,140</td>
<td>5.2</td>
<td>72,470</td>
<td>2.6</td>
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<td>Africa</td>
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<td>52,000</td>
<td>100</td>
<td>1,750</td>
<td>3.4</td>
<td>2,190</td>
<td>4.2</td>
<td>785</td>
<td>1.5</td>
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<tr>
<td></td>
<td>1968</td>
<td>57,500</td>
<td>100</td>
<td>1,740</td>
<td>3.0</td>
<td>2,400</td>
<td>4.2</td>
<td>800</td>
<td>1.4</td>
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<td></td>
<td>1969</td>
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<td>100</td>
<td>2,075</td>
<td>3.4</td>
<td>2,580</td>
<td>4.2</td>
<td>890</td>
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<td>Northern America</td>
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<td>100</td>
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<td>9.1</td>
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<td>2,200</td>
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<td>100</td>
<td>2,300</td>
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<td>3.1</td>
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<td>100</td>
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<td>4,270</td>
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<td>8,200</td>
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<td>(100)</td>
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<td>10,010</td>
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<td>3.3</td>
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<tr>
<td></td>
<td>1969</td>
<td>329,450</td>
<td>(100)</td>
<td>11,040</td>
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<td>10,940</td>
<td>3.3</td>
<td>3,370</td>
<td>1.0</td>
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</table>

2. Already included in Africa or Asia.
Africa, Asia and Latin America. It is estimated that in 1969 those countries in total were spending nearly 18 per cent of their budget on education. The African countries were spending in all some 19 per cent; the Latin American countries nearly 20 per cent and the Asian countries about 14 per cent. These figures show an increase over the previous year for all the regions. It is difficult to see how the developing countries can spend any greater proportion of their budgets on education than the vast sums they are now allocating. But despite these enormous expenditures, the gap between the ‘rich’ and the ‘poor’ widens and not only between countries but often within the countries. Perhaps the time has come, or has long been with us, to look more closely at how the money is being spent.

LEO GOLDSTONE
Office of Statistics, Unesco
As Amadou-Mahtar M'Baye says in his foreword to Najman's book, tropical Africa is one of the regions of the world where educational problems are of the greatest concern. To the universally recognized causes of the educational crisis may be added the historic reasons, linked to the colonial past of these countries and especially to the fact that, newly created political and economic entities as they are, not only must they each find again their own cultural identity, whose roots tend to be increasingly undermined by external influences, but also redefine their own personality and, at the same time, seize and put at the disposal of this cultural reconquest all the experiences of the world-wide scientific and technological revolution.

In some respects, of course, these are contradictory restraints, but Najman shows how they can be reconciled by seeking what might be described as a way of fitting innovation into a framework of authenticity. This search constitutes one axis of the work, another being the analysis of the effectiveness of educational efforts and the problem of their optimalization, and the third being the analysis of inter-African and international co-operation.

Ineffectiveness of present systems in Africa

'Both from the quantitative and qualitative point of view, education in Africa has reached a crisis. . . . Not only is education in Africa failing to achieve the result which governments and people expect, but in practically all countries, and certainly on the continent as a whole, it has undergone a permanent process of worsening' (p. 16). This process is strikingly described and discussed on the basis of a comparison between the targets set forth by the first conference of Ministers of Education of African countries in the Addis Ababa plan (1961), and the targets actually attained five years later.

'If the more usual educational definition of minimum literacy, that is the successful completion of the fourth grade, were applied and interpreted as being achieved by those who enter the fifth grade . . . the cohort born in 1954 would be found to have contained, in 1969, 4,115,000 adult illiterates representing 77% of that cohort, while the one born in 1959 will, in 1974, contain 4,515,000 potential adult illiterates, representing 75% of the cohort; this means an improvement of only 2 per cent in the drop in the number of illiterates over five years. The figures alone provide sufficient evidence of the slow quantitative progress achieved, and justify the statement made by the Director-General of Unesco at the opening of the Conference of Ministers of Education of African countries, organized by Unesco in Nairobi in 1968; that 'unless strong measures are taken to reverse the trend, the primary school [in Africa] is going to lose the battle against illiteracy'.

The picture is just as grim in the case of secondary education. Najman has made a much less thorough quantitative analysis of the subject (and this is greatly to be regretted), but it is an indisputable fact that the percentage of pupils graduating from the first to the second level has not increased as rapidly as was hoped; another disturbing phenomenon is the disproportional growth of general secondary education compared with the technical education and vocational training provided for the same age group, from 15 to 19 years.

The causes of the current ineffectiveness of educational systems in tropical Africa (revealed by the high rate of drop-outs, expulsions and repeaters) are reviewed in great detail. This leads the author to propose directions for research and reflection and to devote a chapter to the problem of the productivity of educational systems in economic terms.

Najman begins this chapter by paraphrasing and summarizing, for application to education, a dictum of U Thant ('Development is not just economic growth, it is growth plus change'). He suggests an equation that throws light on the whole burden of his essay: 'Development is economic growth plus change in education'. This formula leads the author, in the following chapters, to select and define the solutions he proposes for various problems, and which combine the desire for efficiency, the need for innovation, and the search for the socio-cultural and economic factors underlying educational systems depending on educational policies that are themselves linked to development policies.

Solutions for primary education, presented on this basis, are the subject of a concentrated chapter which brings out the fundamental facts regarding the ultimate purpose of primary education in Africa, and the objectives it should consequently adopt. In particular, it underlines the principal contradiction inherent in the existing primary education system that can only be terminal for many children, but is nevertheless designed as a preparation for secondary education.
Notes and reviews

education leading on to higher education. The notion of a basic education cycle is very clearly described, its objectives are defined, and its methods outlined; close attention is also given to its structural relations with the indispensable adult education activities, in environments where literacy training will drag on for several decades if radical solutions are not adopted. In this connexion, Najman’s book echoes the educational doctrines of African political leaders, such as presidents Kenneth Kaunda and Julius Nyerere, that are noteworthy for their clear-sighted and genuinely African approach.

Towards ‘functional’ higher education

The chapter on higher education constitutes one of the most rewarding parts of this study. Until now, it has seldom been made so clear that university institutions in Africa are out of step with social, economic and political realities; little was known about the few examples given here of a truly functional higher education system, in other words, one geared to the professional training requirements and national problems of development. ‘A student graduating from an African university should be able to take up immediately important responsibilities in the social and economic life of his country, very often with very little or no supervision . . . The universities must therefore, by adapting their curricula and introducing a considerable quantity of practical work, enable the student to take up immediately the duties assigned to him.’ Three particularly significant examples are given in this connexion: the Higher Teacher Training Colleges, the Academy of Pedagogy in Ethiopia and, above all, the University Centre for Health Sciences in Cameroon.

A few words might, perhaps, have been added on the role that should be played by higher education in all projects aiming at the regeneration of education, whether they affect primary, secondary or out-of-school education. It is characteristic that innovations in teaching seldom come from universities and are seldom supported by the research they carry out or the training they provide.

The reform of the systems, considered as a whole, is discussed at length and convincingly illustrated by quoting the views on education of President Nyerere of Tanzania (from ‘Education for Self-Reliance’), and of President Kaunda of Zambia; (‘Piecemeal change will not meet our needs, we must have fresh ideas and bold thinking’), as well as those of A. Olu Ogunwiyi: ‘Educational strategy must focus on removing the existing imbalances between the various component parts of the system and between the system and its environment . . . Any imbalance . . . is apt to cause economic and social bottlenecks.’ The role of educational planning, management techniques and systems analysis, and also the need for coherent national education policies are of course emphasized, as well as the problem of ‘entry points’ for innovation in an educational system. In this connexion, Najman develops a realistic strategy for the introduction of educational innovation in Africa illustrating it with a chapter entirely devoted to educational technology.

Prospects in educational technology and teacher training

Najman bases his study of this subject on two main ideas. The first was expressed by Robert McNamara in the following words: ‘Education, normally one of the largest employers in any country, is one of the few industries which has not undergone a technological revolution. We must help to move it out of the handicraft stage. With the terrible and growing shortage of qualified teachers all over the developing world we must find ways to make good teachers more productive. This will involve investment in textbooks, in audio-visual materials, and above all in the use of modern communications techniques . . .’ The second idea cited here was put forward by Henri Dieuzeide: ‘We can start to move away from thinking about technology in education . . . to thinking about the technology of education, i.e. the systematic application of the resources of scientific knowledge to the process that each individual has to go through in order to acquire and use knowledge. The aim behind such thinking should be to move away from dispersion of effort and wastage (or worse still, the overhasty adoption of technology as a means of patching-up shaky educational systems) to a full and integrated use of all the resources of the technological age.’

Illustrating his thesis with a detailed description of the instructional television project undertaken in the Ivory Coast, Najman states his own conviction and communicates it to the reader, first, that ‘it is impossible for young people in Africa, who will be spending their full active life in an age of technology and electronics, to be unprepared for that period in their life’, and then that instructional television ‘introduces a new kind of relationship into the classrooms, it is of enormous help to teachers’, and at the same time ‘can contribute to shortening the number of years needed to achieve a certain level of education’. Another advantage is that instructional television is a means of promoting the rapid transmission of any reform of the educational system.

The last and most important problem for which Najman provides a solution, concerns the attitudes of the teaching staff to the technology of education, and
the precautions to be taken so that as a result of reforms in their training, teachers will be ready to take on new functions and accept new roles in the educational process. Lastly, he discusses and effectively refutes several arguments which are frequently used against educational technology in Africa. For example, there is no reason why Africa should do without the means widely used for educational purposes in the rich countries (particularly in the form of the parallel system of education), when mining, civil aviation, and industry in Africa draw on all the resources of science and technology, and are tending to do so more and more.

Co-operation for development

The study ends by recalling the role and limits of international co-operation in the development and improvement of national educational systems in Africa, and particularly the hopes aroused by the Addis Ababa plan in 1961. Very realistically, the author lays stress on the fact that 'the major effort for development should be a national one, and it is this conclusion which has been reached not only individually by governments but also by eminent international organizations'. As Gunnar Myrdal puts it, 'in the educational field, foreign aid can be of only marginal importance'. This does not mean, of course, that such aid should decrease; but it is indispensable for it to be provided in the form of real co-operation with national efforts to reform educational systems. 'Project selling' to African States has been practised all too readily: 'Africa was a place where the most incredible projects were tried out.' But that period has now come to an end, and in this connexion Najman recommends various approaches enabling African leaders to utilize external resources for national purposes, owing, in particular, to an improvement in national planning and also in co-ordination of forms of assistance.

As regards co-operation in the field of education, Najman's analyses and proposals are supported and amplified by the comments made by M'Bow in his foreword. He stresses 'this inter-dependence of experiments which are now being carried out in various African countries and which will undoubtedly have fortunate consequences for the whole continent, and even elsewhere... The regional structures for pedagogical research and discussion which are now being set up in Africa can usefully encourage this mutual reinforcement... Just as innovation can spring from a number of sources into the heart of an educational system, generally, if it is of an important nature, with repercussions on the entire system, so, in a region such as Africa, whose countries have so many affinities with each other, when a country devises or tries out a substantial reform, it is natural that the latter will have repercussions on the neighbouring States. In any case, it seems desirable to encourage diffusion by every possible means of regional co-operation. Every achievement, every experiment, every new doctrine are like so many echoes sent to each other by African educators as they go forward together'.

This study may clearly be considered as an important stage in the definition of a strategy for educational innovation in Africa, and it has already provided many answers to the question of its sub-title: What next? It constitutes one of the very first attempts to establish a true praxis for education in this region. We must now hope that the series of which this is the first work will contribute other 'educational proposals'.

J. C. PAUVERT

(Language Science and National Development series, edited by Anwar S. Dil, sponsored by the Linguistic Research Group of Pakistan, published by Stanford University Press and distributed in Africa, Asia and some other parts of the world by Oxford University Press by arrangement with Stanford University Press.)

The first six volumes of the Language and National Development series presents the selected writings of six scholars whose study of language, language behaviour, and behaviour towards language has been an important formative and stimulating influence on the newly emerging, interdisciplinary field of
Sociolinguistics. Inasmuch as the series was inaugurated in honour of International Education Year, it is clear that its editor believed that the results of sociolinguistically oriented research can be relevant to issues both in education and in national development. The papers selected provide eloquent support for this belief.

It is not surprising perhaps that educational and developmental concerns should overlap, since many of the issues confronting developing nations are educational ones. The relevance of sociolinguistics to these concerns, however, may not be immediately obvious. What is sociolinguistics and how can it be useful to those who must deal with problems in education and national development?

Sociolinguistics is the study of the ways in which language and the social matrix in which it is embedded influence and reflect one another. Thus sociolinguists are concerned not only with identifying and describing covariation between linguistic and social facts (and in the process demonstrating that variation hitherto considered random is in fact lawful), but also with explaining the interpenetration between the two (see, for example, the paper by Fishman and Herasimchuk which accounts for variation in the pronunciation of one English and one Spanish sound among bilingual Puerto Ricans near New York City). Not only do they attempt to describe the determinants, consequences, and correlates of language behaviour, but they also try to describe language as a social object, a referent in connexion with which people have attitudes, beliefs, motives, and values (see, for example, Ferguson's paper, 'Diglossia'), which characterizes the different beliefs, attitudes and values associated by speakers in connexion with linguistically and functionally distinct 'high' and 'low' varieties of their language.

The behaviour studied by sociolinguists varies in its closeness to the raw material of speech as produced by particular speakers in particular speech contexts. It may be as close to observable behaviour as alternation in the use of personal pronouns for particular networks of speakers within a given community (as in Lambert's study of the use of tu and vous in French Canada), or it may be as remote as the different value systems which speakers associate with different languages or language varieties used in their community (as in Fishman's paper on the description of societal bilingualism). Whether the aim of the sociolinguist is to describe particular, concrete, observable events or whether it is to create highly abstract constructs which represent the summarization and compositing of thousands of events, he is concerned with discovering general laws which can account for socially motivated verbal behaviour and behaviour towards language.

There is a wide variety of purposes and emphases in sociolinguistic research. One purpose is the linguistic description of functionally distinct varieties of a language and the characterization of the contexts for which speakers view each to be appropriate (as, for example, in the paper by Gumperz, in collaboration with Naim, on standard varieties of Hindi in the Hindi regional language area, or as in the paper by Ferguson which characterizes the similarities in baby talk, the variety considered appropriate for addressing infants, across six languages). Another purpose is the characterization of the social meaning associated with the use of particular language varieties (as in the paper by Gumperz, in collaboration with Blom, on the use of a standard and regional variety of Norwegian in a small town close to the Arctic Circle). Still another purpose is the definition of relationships between the fortunes of a language—its spread, maintenance, or decline—and the social processes with which the language interacts (as in Greenberg's paper on urbanism, migration, and language in Africa).

Despite a multiplicity of research interests, most sociolinguists agree on at least three propositions. First, there are few, if any, single-style speech communities. Even in societies which have relatively little social differentiation, there are different ways of speaking which are appropriate for different occasions, purposes, or interpersonal relationships. Even in such societies it is likely, for example, that one speaks differently to a child than to an elder and that speech during solemn, ceremonial occasions differs from speech associated with the activities of everyday life (see, for example, Gumperz's paper on types of linguistic communities). Thus, even for monolingual speakers, the notion of 'one speaker, one language' or 'one group, one language' is misleading. And of course for bilingual or multilingual speakers and communities (which are perhaps as common as monolingual ones), such a characterization is false. Second, the settings, functions, occasions, or interpersonal relationships which are considered appropriate for the several varieties of the languages at the disposal of a community become symbolized by these varieties. Thus language assumes symbolic content. The language riots which periodically occur in some linguistically diverse States provide powerful evidence that language is a value-laden referent. Third, an adequate description of what it is a person needs to know in order to communicate appropriately requires more than a description of what he needs to know for producing and understanding the sentences of his language or languages. The acceptability of his utterances is determined in part by the situation in which he speaks. Thus, as Dell Hymes, another important sociolinguist, has observed, a speaker must know
when to speak and when to remain silent and what to say and when to whom and how. It is one of the tasks of sociolinguists to make such knowledge explicit.

If these propositions are accepted by decision-makers in education and national development, it is likely that some of the issues which face them can be more adequately resolved. As examples of such issues one can cite the following: deciding whether technical and scientific terms in a language undergoing modernization should be derived from indigenous or foreign sources (see Ferguson's paper on language development and Haugen's paper on linguistics and language planning); choosing a medium of instruction for multilingual settings (see Ferguson's paper on sociolinguistically oriented language surveys and Gumperz's paper on communication in multilingual societies); choosing foreign languages to be offered for instruction; determining goals of foreign language teaching (see Gumperz's paper on linguistic repertoires, grammars, and second language instruction); selecting a writing system for an unwritten language (see Ferguson's paper on St Stefan of Perm); and overcoming problems of mis-communication or non-communication which arise when people who speak linguistically similar, historically related languages come into contact with one another (see Haugen's paper on semi-communication in Scandinavia). Problems such as these are more susceptible to rational solution (although rational solutions are not always possible) if educational and national policy decision-makers become sociolinguistically sensitive. Sociolinguistic sensitivity implies an awareness not only that the verbal resources available to speakers are linguistically variable but also that, for a given network of speakers, linguistically contrasting varieties represent symbolically contrasting entities.

Many (but by no means all) of the papers presented in the Language Science and National Development series deal specifically with practical problems such as these. A paper by Ferguson, for example, outlines the special problems of teaching, as a second language, a language that has two major forms, a 'high' variety and a 'low' variety, and proposes some methods for determining effective teaching procedures. A second example is a paper by Lambert, in collaboration with Seligman and Tucker, which demonstrates that teachers often evaluate a student's intelligence or 'academic potential' on the basis of linguistic cues to his social class. Another example is the paper by Gumperz which discusses the role of dialect differences in classroom learning and the importance of both for diagnosis of problems in classroom communication. Other examples are the paper by Haugen on language planning in Norway, which traces the efforts of Norwegians over the past century to create a standard language which would reflect the individual character of their nation; the paper by Greenberg which proposes quantitative indices for the measurement of the linguistic diversity of an area or population; and Fishman's paper on planned language maintenance, which suggests ways in which minority languages in the United States, such as Spanish and Yiddish, can be preserved, not only as a benefit to individual speakers of these languages but to their nation as a whole.

In addition to papers devoted to practical problems, there are many papers concerned with general issues in linguistics (for example, Greenberg's papers on language universals), the ethnography of speaking (for example Gumperz's paper on the relation between linguistic and social categories), and the linguistic reflections of societal processes (for example, Fishman's paper on the relationship between the observable speech behaviour of small groups and the abstract representation of language usage in large-scale social processes: 'The Relationship between Micro- and Macro-Sociolinguistics'). To the extent that such papers can sharpen the reader's sociolinguistic sensitivity and sophistication, they, along with the papers devoted to specific practical problems, will be useful to practitioners, planners, and policy-makers in education and national development. It is clear that the series as a whole will also be useful to students and teachers of linguistics and sociolinguistics, inasmuch as the series brings together some of the most valuable contributions to sociolinguistic inquiry which have been published to date, including several classic papers, which until now have been widely dispersed.

Each of the volumes contains a bibliography of the author's work and a short bibliographical introduction by the editor of the series.

Fortunately, none of the volumes can be considered a valediction. Each of the authors is vigorously engaged in teaching, writing, and research. Their work, new as well as old, continues to stimulate their students and colleagues in the study of language and its social reflections, determinants, and consequences.

ROBERT L. COOPER
Notes and reviews

Some recent Unesco publications

**Initiatives in Education: a World Profile for 1971–1972**
Prepared by the International Bureau of Education, Geneva
(Unesco: IBE, Studies and Surveys in Comparative Education)
24 × 15.5 cm, 117 p., tables
1972 (ISBN 92-3-101003-4)

Drawing essentially on the documents and discussions of the thirty-third International Conference on Education, held in Geneva in September 1971, this book expounds for the broader public the situation and prospects of education today. Appended are statistics relating to educational development, the conference report on major trends in education, and a list of bibliographical references. The inclusion of an index facilitates selective use of the book as a work of reference.

£0.85; 10 F; $2.50

**Perspectives de l'Éducation en Asie: Expansion et Transformation**
(Educational Studies and Documents, New Series, 7)
27 × 21 cm, 94 p., diag., tables
1973 (ISBN 92-3-201009-7)
Available in French only

This publication will help the reader better to understand the preoccupations of those responsible for educational policy in Asia and the programmes and priorities they envisage to ensure educational development in their region. It is the result of the work of the Third Regional Conference of Ministers of Education and those responsible for Economic Planning in Asia (Singapore, 31 May to 7 June 1971).

£0.65; 8 F; $2

**A Statistical Study of Wastage at School**
A study prepared for the International Bureau of Education by the Unesco Office of Statistics Unesco: IBE
24 × 15.5 cm, 121 p., diags., tables
1972

Based on its experience of collecting and analysing quantitative data on wastage at the first and second level of education, the Unesco Office of Statistics has prepared this simple manual as a contribution to the 1970 International Conference on Education. It presents in national terms and on a step-by-step basis a series of methods and techniques for measuring education wastage, and is particularly designed to help those responsible for the collection and analysis of the data.

£1.35; 18 F; $4

**Present Problems in the Democratization of Secondary and Higher Education**
By A. le Gall, J. A. Lauwerys, B. Holmes, A. B. Dryland, S. Mattsson
(Development of Higher Education)
24 × 15.5 cm, 238 p., fig., tables
1973 (ISBN 92-3-101068-9)

This work deals with the differentiations that appear among pupils during their schooling and the means to remedy resulting disparities and injustice.

£2; 24 F; $6

**The School Readiness Project**
By Wincenty Okôn and Barbara Wilgocka-Okôn, Institute for Education, Warsaw
(Unesco: IBE, Experiments and Innovations in Education, 2)
21 × 15 cm, 30 p., tables
1973 (ISBN 92-3-101065-4)

The purpose of this series is to provide educators in Unesco Member States with objective accounts of important innovations, for study and possible adaptation, and as a matter for reflexion on the nature of educational change.

This study describes in detail the research phase of an innovation concerning Polish children of preschool age. An investigation of their ability to cope with the school situation which generally confronts 7-year-olds confirmed the hypothesis that certain children are in fact mature enough to enrol before the statutory age.

£0.35; 4 F; $1
Anthropology and Language Science in Educational Development
(Educational Studies and Documents, New Series, 11)
27 × 21 cm, 68 p.
1973 (ISBN 92-3-101095-6)
A collection of thirteen papers written by eminent anthropologists and linguistic experts on the various aspects of language teaching, from the point of view of bi- or multi-lingual societies which must determine the language(s) of instruction and how to best teach in a second language when the student's mother tongue is considered inappropriate. Describes also the problems which can face educators who must take policy decisions and teachers who must put them into effect. It is directed at teachers and educational administrators in both developed and developing countries.

£0.50; 6 F; $1.50

Possibilités et Limites de l'Alphabétisation Fonctionnelle: l'Expérience Iranienne
By Pierre Furtet
(Études et Documents d'Éducation, Nouvelle Série, 9)
27 × 21 cm, 61 p., graph., illus., tables
1973 (ISBN 92-3-201075-5)
Available in French only
The pilot project carried out in Iran has aroused the interest of specialists in educational methodology in so far as it can be considered as a testing ground of the ecological approach to functional literacy training. This study contains at the same time the description of an experience, an assessment of the first measurable results and reflections on the methodology of functional literacy.

£0.45; 6 F; $1.50

Television for higher technical education of workers
Final report on a pilot project in Poland
(Reports and Papers on Mass Communication, 67)
27 × 21 cm, 73 p., tables
1973 (ISBN 92-3-101089-1)
The first report on this project (No. 55 in the above series) was published in 1969. The present study covers the whole five-year period of this experiment and, like its predecessor, was prepared on the basis of research into sociological, psycho-pedagogical and economic aspects of the project.

£0.65; 8 F; $2

Prepared by the International Commission on Mathematical Instruction (ICMI)
(The Teaching of Basic Sciences)
27 × 21 cm, xl + 145 p., figs., tables
1973 (ISBN 92-3-101016-6)
This publication is the first in the above series to follow a new pattern comprising scholarly analyses of the trends in various aspects of an over-all educational area.
Each chapter presents an analysis of the trends in the following areas: primary mathematics; algebra; geometry; probability and statistics; analysis; logic; applications of mathematics; trends in methods and media used in teaching mathematics; evaluation; research in mathematics education.

£1.15; 14 F; $3.50

Museums, Imagination and Education
(Museums and Monuments series, XV)
21.5 × 17.5 cm, 148 p., illus.
1973 (ISBN 92-3-101036-0)
Addressed to a rather wider audience than some recent numbers in this series, this publication reviews the changing role of museums in a changing world and shows how educationists can benefit from the opportunities that a modern museum offers to supplement formal educational courses. The keynote is imagination and the message that the museum has renounced its passive role and aims at becoming a growing force in education. Headed by René Marcousé, contributors include: D. V. Proctor; P. Toucet; R. Subramanian; Louise Condit; John Read; Ulla Keding Olofsson; K. Vilenskaya and B. Agafoshina; Mahmoud Mesallam Hassan; W. Stephen Thomas; André Szpakowski; Mark Luca.

£2; 24 F; $6

Comparability of Degrees and Diplomas in International Law
A study on the structural and functional aspects
By René Jean Dupuy and Gregory Tunkin
(Studies on International Equivalences of Degrees)
24 × 15.5 cm, 75 p.
1973 (ISBN 92-3-101057-3)
Aims at defining the means of comparing studies in international law and clarifying the general criteria in order to establish international equivalences of diplomas in this field. Comprises three parts: 1. The Teaching of International Law: Structures and Organization; 2. Specific International Law Curricula;
International Conference on Education

The thirty-fourth session of the International Conference on Education, convened by the Director-General of Unesco, will take place in Geneva from 19 to 27 September 1973.

The conference brings together representatives of the education authorities of Member States for an exchange of views on current trends and for the discussion of a special topic. On the occasion the question of major trends will be placed within the context of the findings and recommendations of the report of the International Commission on the Development of Education: Learning to Be. Delegates will no doubt deal in detail with their reactions to the report and describe national measures to follow it up.

The special topic is the relationships of education, training and employment, with particular reference to secondary education, its aims, organization and content. In other words, reforms and innovations at the secondary level of education and training—for the 12-18 year age group—will occupy the centre of the stage. The ‘dossier’ of the forthcoming issue of Prospects will be devoted to a discussion of this topic.
International Congress on Educational Sciences
(Paris, 3–7 September 1973)

The International Association for the Advancement
of Educational Research, of which the president
is Professor Bogdan Suchodolski of the University
of Warsaw, is holding a congress in Paris from
3 to 7 September of this year on ‘The Contribution
of Fundamental Sciences to Educational Sciences’. Divided into several commissions (History of Edu­
cation, Comparative Education, Mathematics and
Educational Sciences, Communication Sciences, Edu­
cational Technologies, Psychopedagogy, Educational
Sciences and Teacher Training, Research Methods in
Educational Sciences), participants will focus their
discussions on four major themes: the contribution of
biology, of child psychology, of sociology, and of
economic sciences to educational sciences. For further
information, write to the Congress Secretariat, Uni­
versité de Paris IX—Dauphine, Place du Maréchal
de Lattre-de-Tassigny, 75016 Paris (France).

Meetings

Preparatory Meeting of Experts for the Conference
of Ministers of Education of the Twenty-five Least
Advanced Countries: Paris, 16–21 July.
Seminar on New Approaches to Education for In­
ternational Understanding: Unesco Institute for

International Working Group on Continuing Edu­
cation: Paris or Turin, 4–7 June.
Sub-regional Seminar on Improvement of the Util­
zation of Recording Techniques for Teacher-
training: Brazzaville, 2–14 July.

International Advisory Committee for Out-of-school
Operational Seminar on Functional Literacy: Khong-
Khaen (Thailand), June.
Meeting of Experts to Recommend Awards under
Programme of Study Tours for Workers’ Edu­
cation: Paris, 7–8 June.

Regional Meeting for the Improvement of Science
and Technology Education in Asia: Bangkok
(Thailand), 3–14 September.
International Congress on the Improvement of Chem­
istry Education (jointly with International Union of
Pure and Applied Chemistry, Polish National Acad­
emy of Sciences and Polish National Commission
for Unesco): Wroclaw (Poland), 17–22 September.
Third Panel of Experts on Nuclear Science Teaching
(jointly with International Atomic Energy Com­
mission): Athens (Greece), 7–11 May.
Meeting of Experts on New Teaching Methods in
Latin-American Seminar on Education Industry Co­
operation in Engineering Education with Financial
Contribution of the United Nations Develop­
ment Programme (UNDP): Córdoba (Argentina),
9–14 April.
Meeting of Experts on the Role of Science in the
Symposium on the Use of Mass Media to Promote
a Better Understanding of Today’s Technological
World: Cairo (Egypt), 11–16 June.
Meeting of Experts to Outline a Programme of
Studies on the Human Implications of Scientific
Group of Experts on Book Promotion: Paris, 28–
30 May.

Meeting of Directors of National or Regional Copy­
right Information Centres, Persons in Charge of
National Publishing Associations and Organiz­
atations Representing Authors: Paris, 21–25 May.
Meeting of Specialists in European Cultural Tele­
Notes and reviews

News from international agencies and foundations

The International Council for Adult Education has been created for the encouragement of all forms of adult education throughout the world, and for the advancement of lifelong learning. Its 'members' are national associations and boards of adult education in different countries, and its 'associates' are individuals and institutions from every country.

The officers are: President: Malcolm Adiseshiah (India), former Assistant Director-General of Unesco; Vice-Presidents: Paul M'Haiki (Tanzania) and Paul Lengrand (France); Honorary-Treasurer: Helmuth Dolff (Federal Republic of Germany); Secretary-General: J. R. Kidd (Canada). The council publishes a journal, Convergence, of which the editor is Edward Hutchinson (United Kingdom).

The first projects of the council are in the areas of training and research in Asia and Africa.

A newsletter is also published by the council, and is available upon request from: International Council for Adult Education, George Brown College, 21 Nassau St, Toronto, Ontario (Canada).

The Ford Foundation has recently announced grants to:
Indian Institute of Management (Ahmedabad), $775,000 over three years, to help develop doctoral-level training. Funds will be used for equipment, doctoral fellowships, students exchanges, library acquisitions, and applied research in rural development and education.
Institute for Legal Teaching and Research (Chile), $125,000 over two years, to help the institute, an organization of law professors, promote reform in the law schools and legal institutions, and develop programmes linking law and social change.
Latin American Faculty of Social Sciences (Chile), $300,000 supplement over two years, to support graduate training programmes in sociology and political science, and to help create a master's level programme in social psychology, through faculty salaries, training abroad, research, publications, library acquisitions, and scholarships.
International Council for Educational Development, $400,000 for partial support for a year of general costs of programmes concerned with such matters as the management of systems of higher education and the international activities of universities.

Scientific and Technical Research Council of Turkey, $200,000 over three years, for a modern science programme for secondary schools. The grant will be used for laboratory equipment, translation of foreign publications, teaching materials and films, and offset printing equipment.
University of Geneva, $333,000 over three years, for the university's International Center for Genetic Epistemology, directed by Professor Jean Piaget, pioneer in research in the development of human intelligence and cognition. The grant, to be matched by funds from the Swiss National Foundation, will provide stipends for research assistants and visiting scholars as well as for secretarial and administrative costs.
American University in Cairo, $78,000 over three years, for compilation of a dictionary of spoken Egyptian-Arabic.
University of Delhi (India), $1,313,000 over two years, for support of graduate-level research and training. Funds will be used to purchase modern scientific equipment, provide more space and publications for the law faculty, acquire books and equipment for the departments of Chinese and Japanese studies and linguistics, build a pilot block of faculty housing, and help develop the university press.
Government of Indonesia, $13,200 over two years, to help the law faculty at the University of Padjadjaran develop new curricula for a consortium of Indonesia law schools.
University of the Valley of Guatemala, $58,000 two-year supplement, for a training and extension programme in educational testing for Central America. The university offers a month-long seminar and workshops on test development for university and public school personnel from throughout the region.

The Society for International Development has launched a new journal, Focus: Technical Cooperation, which 'is published quarterly, as a section of the International Development Review and is devoted to the theory and practice of those international activities known as "technical assistance", and "technical cooperation". It is meant to serve as a vehicle of communication for those active in the planning,
execution, and assessment of international technical cooperation programs and projects'.

The Academy for Educational Development published in 1972 a Directory of Sources of Information and Assistance on Educational Technology for Development. It is 'the first of several special bulletins intended to provide educators in developing countries with up-to-date information on developments in the use of technology for improving education around the world. (Available from Information Center on Instructional Technology, Academy for Educational Development, 1424 Sixteenth St N.W., Washington, D.C. 20036.)
You can still order copies of

impact

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Unesco publications

it is time to begin

Malcolm S. Adiseshiah

the human role in development:
some further reflections for the seventies

An edited and selected version of Mr Adiseshiah's statements and published studies during his last three years as Deputy Director-General of Unesco in which he outlines some of the educational and cultural tasks for the 1970s.

Themes explored include: Decade for Decision; Brain Drain from the Arab World: a Signal or a Storm?; Choices for Development; Perspectives of Education; Education for Democracy in India; Frontiers.

24 × 15.5 cm  182 p.
1972  U.S.$3.50; £1.05; 14 F
In the minds of men

Unesco 1946 to 1971

Contributions by
Gian Franco Pompei, Charles Frankel, Lionel Elvin, Victor A. Kovda, Jean d'Ormesson,
Prem Kirpal, Malcolm S. Adiseshiah, William A. Eteki-Mboumoua, Juan Goméz Millas,
Mohi El Din Saber, Atilio Dell'Oro Maini, Hanna Saba, Sarwat Okasha,
Alva Myrdal, René Maheu.

To celebrate its twenty-fifth anniversary, Unesco has published a book which traces the Organization's history over the last quarter of a century and outlines the conclusions which might be drawn from it. The book is divided into three main parts, corresponding to the Organization's basic activities: International intellectual communication and cooperation; Unesco's contribution to the economic and social development of its Member States; Unesco's efforts in the service of human rights and peace. The book opens with a brief account of major events which have marked the life of the Organization and concludes with an interpretation by the Director-General of the intellectual and moral significance of the developments that have taken place in the nature and scope of its activities.

Learning to be

Edgar Faure
Felipe Herrera
Abdul-Razzak Kaddoura
Henri Lopes
Arthur V. Petrovsky
Majid Rahnema
Frederick Champion Ward

The report of the International Commission on the Development of Education, created in February 1971 at the request of the Unesco General Conference and presided over by Mr. Edgar Faure, former Prime Minister and Minister of Education in France. The Commission, which worked for fourteen months, and visited twenty-four countries, was charged with providing a critical reflection on over-all solutions to major problems involved in the development of education in a changing universe.

Co-edition: Unesco/Harrap

1972 17×24 cm 313 p.
ISBN 92-3-101017-4 (Unesco)
ISBN 0-245-51900-7 (Harrap) $6; £2; 24 F
UNESCO PUBLICATIONS: NATIONAL DISTRIBUTORS

ALBANIA: N. Sh. Botimeve Naim Frasheri, TIRANA.

ALGERIA: Institut pédagogique national, 11, rue Ali-Haddas (ex-rue Zaïtcha), ALGER; Société nationale d'édition et de diffusion (SNED), 3, boulevard Zirout Youssef, ALGER.

ARAB REPUBLIC OF EGYPT: Librairie Ksar El Nil, 38, rue Ksar El Nil, LE CAIRE; National Centre For Unesco Publications, 1, Talaat Harb Street, Tahrir Square, CAIRO.

ARGENTINA: Editorial Losada, S.A., Ailsina 131, BUENOS AIRES.


AUSTRIA: Verlag Georg Fromme & Co., Arbeitergasse 1-7, 1051 WIEN.

BELGIUM: Jean De Lannoy, 1 i2, rue du Trône, BRUXELLES 5.

BELGIUM: EDUPRESS, Place de la Bourse, B-1040 BRUSSELS.

BOLIVIA: Librería Universitaria, Universidad San Francisco Xavier, apartado 212, SUCRE.

BRAZIL: Fundação Getúlio Vargas, Servicio de Publicações, caixa postal 21120, Praia de Botafogo 188, RIO DE JANEIRO, GB.

BULGARIA: Hemus, Kantora Literatura, bd. Rousky 6, SOFIJA.

BURMA: Trade Corporation no. (9), 550-552, Merchant Street, RANGOON.

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CANADA: INFORMATION CANADA, OTTAWA.

CONGO (PEOPLE'S REPUBLIC OF): Librairie populaire, 9.27, zonas 1, GABON.

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DOMINICAN REPUBLIC: Librería Dominicana, Mercedes 49, apartado de correos 656, SANTO DOMINGO.

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EL SALVADOR: Librería Cultural Salvadoreña, S.A., Edificio San Martín, 6.a calle Oriente n.º 118, SAN SALVADOR.

ETHIOPIA: National Commission for Unesco, P.O. Box 2996, ADDIS ABABA.

FINLAND: Akateeminen Kirjakauppa, 2 Keskuskatu, HELSINKI.


GERMAN DEMOCRATIC REPUBLIC: Deutscher Buch-Export und -Import GmbH, Leninstrasse 16, 701 LEIPZIG.


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GUATEMALA: Comisión Nacional de la Unesco, 6.a calle 9.27, zona 1, GUATEMALA.

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Ivory Coast: Centre d'édition et de diffusion africaines, Boîte postale 4541, Abidjan Plateau.

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