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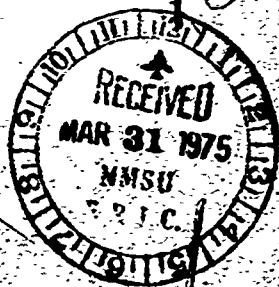
ABSTRACT

Assuming that schools, colleges, and adult education programs cannot alone produce significant rural improvement in developing nations, this booklet presents argument for educational policy that is part of a total planned rural policy and that incorporates an indirect rural bias. It is argued that if education with a rural bias is to be acceptable to parents and to children, it must not come as part of a drive to keep people on the land against their will; rather, it should be a gentle innovative but coordinated effort at comprehensive rural development which utilizes rural teachers, trainers, and extension workers as key factors in a total rural development program aimed at an industrialized and modernized cash economy. Citing the input of new knowledge as the most productive of all investments to be made in an agricultural economy, this booklet addresses an imagined 'norm' in an underdeveloped country and presents general rural education principles which are illustrated via a multidisciplinary approach and examples in general, vocational, extension, and adult education and teacher training. General recommendations call for manpower planning, international exchange of ideas, and coordination efforts under a centralized rural education agency. (JC)

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Planning education in relation to rural development

G.M. Coverdale



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Fundamentals of educational planning

The booklets in this series are written primarily for two groups: those engaged in—or preparing for—educational planning and administration, especially in developing countries; and others, less specialized, such as senior government officials and civic leaders, who seek a more general understanding of educational planning and of how it can be of help to over-all national development. They are devised to be of use either for private study or in formal training programmes.

The modern conception of educational planning has attracted specialists from many disciplines. Each of them tends to see planning rather differently. The purpose of some of the booklets is to help these people explain their particular points of view to one another and to the younger men and women who are being trained to replace them some day. But behind this diversity there is a new and growing unity. Specialists and administrators in developing countries are coming to accept certain basic principles and practices that owe something to the separate disciplines but are yet a unique contribution to knowledge by a body of pioneers who have had to attack together educational problems more urgent and difficult than any the world has ever known. So other booklets in the series represent this common experience, and provide in short compass some of the best available ideas and experience concerning selected aspects of educational planning.

Since readers will vary so widely in their backgrounds, the authors have been given the difficult task of introducing their subjects from the beginning, explaining technical terms that may be commonplace to some but a mystery to others, and yet adhering to scholarly standards and never writing down to their readers, who, except in some particular speciality, are in no sense unsophisticated. This approach has the advantage that it makes the booklets intelligible to the general reader.

The series was originally edited by Dr. C.E. Beeby of the New Zealand Council for Educational Research in Wellington. It is currently under the general editorship of Professor Lionel Elvin, formerly Director of the Institute of Education of the University of London.

Although the series has been planned on a definite pattern, no attempt has been made to avoid differences, or even contradictions, in the views expressed by the authors. It would be premature, in the Institute's view, to lay down a neat and tidy official doctrine in this new and rapidly evolving field of knowledge and practice. Thus, while the views are the responsibility of the authors, and may not always be shared by Unesco or the Institute, they are believed to warrant attention in the international market-place of ideas. In short, this seems the appropriate moment to make visible a cross-section of the opinions of authorities whose combined experience covers many disciplines and a high proportion of the countries of the world.

Preface

If the problem of poverty is to be solved two things are clear; firstly, whatever effect industrialization may have, since the majority of people in the world's less affluent countries live in the countryside there must be an all-round improvement in the conditions of rural life. Secondly, there can be no doubt that education has an important part to play in any such programme of rural betterment. Everybody agrees that the schools and colleges and adult education cannot produce significant rural improvement by themselves: theirs must be part of a total planned policy.

What is the nature of that part? Here there is much difference of emphasis. Dr. Coverdale, an Australian with considerable international experience, believes that the best approach is indirect. That is to say, one does not invent a separate category of primary school—the rural school—different in almost every respect from primary schools in the towns. This is because there is a basis of common knowledge and personal development necessary for all children, whether they live in the town or in the country; and because an important minority will go on from primary school to secondary and higher education. Perhaps even more important, if education with a rural bias is to be acceptable to parents and to children themselves, it must not come as part of a drive to keep them on the land against their will.

These considerations point logically to primary schools that, like primary schools anywhere, give a general elementary education, but that do it with a consciously sympathetic awareness of the rural life around the school, in points of reference, apparent content and

Preface

methods and values. This is to link school and life, and to improve, not water down, education.

If this is agreed as the right basis for action, how are the teachers, the extension workers and adult educators, and the educational planners, to go about their task? This is the question that in broad outline (and in terms of a norm that of course will vary in practice from situation to situation) Dr. Coverdale sets out to answer. He will be read with profit by every one engaged in this major task confronting the world's inhabitants at the present time.

LIONEL ELVIN
General editor of the series

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Introduction

The purpose of this paper is not confined to making a spirited case for a spectacular expansion of rural education and agricultural training in the developing countries where rural poverty is usually on a scale unenvisaged by the Western nations. This has been dealt with assiduously, persuasively and tenaciously by eminent planners, economists, sociologists, statisticians and other experts in their various fields, and there is little of value which could be added to their continuing recommendations. Their case has been proven a thousand times over. It is certainly no discredit to their efforts if their repeated warnings have not been heeded, nor prompt and positive action taken, by the governments whom they have been advising. Never have they disguised the fact that, in this context, there is no easy row to hoe. There is no slick and easy solution to the problem of rural development, especially insofar as the contribution of education is concerned.

The majority of experts have made no extravagant claims that education *per se* is capable of pioneering rural change. Clearly, however, it is highly relevant to the problem, even if only because, in so many backward countries, somewhere in the region of 90 per cent of the population live in these rural areas deriving their meagre and often unbalanced subsistence therefrom. Many of these countries are striving to move towards free and compulsory education for all, at least to the conclusion of first-level school. Education is not merely being offered either as a token of political generosity or as a belated social service. At this stage in a country's emergence, it is also very much an investment in national development, and therefore to be planned and evaluated accordingly—in agricultural education no less than any other form of education.

It is quite fashionable to belittle the dividends likely to accrue from a substantial investment in agricultural education. Admittedly the past is strewn with the wreckage accumulated from a long history of mistakes and ill-conceived schemes! It is easy to feel disillusioned by the results of many rural community projects of a self-help nature; the difficulties become really apparent when it is a case of sustaining the projects, and one is forced to recognize the importance of material incentives as opposed to altruism and community-mindedness, except perhaps where there is the fervour of fierce nationalism. One has to accept the fact that there is jealousy and self-interest amongst the richer rural dwellers, and that the more typical peasant is characterized by his fatalism, lack of achievement, and reluctance to change his way of life.

It is beyond the scope of this paper to discuss in any detail the quality of rural life, even though the well-being of the countryside has much to do with the efficacy, or otherwise, of rural education programmes. It has to be conceded, however, that all too frequently the villager seems to prefer the familiar and the traditional. (These characteristics are not the monopoly of developing countries. Exactly the same climate prevails in the majority of advanced countries, especially in their poorer farming districts.) I have tried in this paper to avoid the fatalistic philosophy that there are so many obstacles in the way of rural reconstruction that it belittles all attempts at change. This is not to say that I think it is a simple and straightforward matter to precipitate change or that I think that rural education offers a prescription for miracles!

Throughout this paper, my concern has been with methodology and ways in which the efforts of organizations and institutions concerned with rural education might be improved and expanded. I have adopted an approach similar to a case-study, without any attempt to relate it to any specific country or continent. Inevitably, with such a broad approach, I am bound to be perpetually guilty of generalizations. (I do, in fact, realize that there are great differences between the problems of Central Africa, South-East Asia, and the Andes!) Equally, I am guilty of making numerous value-judgments, since much of my thinking is based upon personal experience in the field. I have attempted a critical analysis of the different facets of rural education and tried to offer some constructive suggestions.

I would also wish to declare from the outset, especially because I have tended to highlight case-studies based on practical experience,

that I am particularly concerned lest the reader gains the impression that I am attempting to offer a personal prescription which I consider will meet all situations and cater for every eventuality. This is certainly not the case, and even in the unlikely event of its being possible, I would not consider it in the least desirable. Circumstances will fundamentally alter cases, and a policy which may seem highly appropriate in one country, may prove to be a total disaster in another. Furthermore, I think it would be undesirable to impose constraints, even by the vaguest of implications, on creative thinkers and planners within a particular country. They need to be perfectly free to put their ideas to the test, even though this may entail an element of trial and error whilst they gradually evolve their own formula. This, after all, is precisely how we have all come to arrive at our personal beliefs and convictions.

I see my function as outlining certain principles for an imagined 'norm' in an under-developed country, in the hope that a survey of these general principles, illustrated by practical examples, might have some practical usefulness for the planners, administrators and educators who find themselves grappling with the ever-elusive problems associated with education and training for rural development. It is a problem which is virtually world-wide, and it is doubtful whether anyone would have the temerity to claim that they are truly satisfied that to date they have gone very far towards solving it.

No introduction to a topic of this nature would be complete without some reference to what I would define as an 'overall perspective'.

In under-developed countries, 70-95 per cent of all people live and work in the rural areas, and yet it is precisely here, where accelerated progress is so vital, that modernization has so far made the least impact. In this context, it would be wrong to assume that any system of agricultural education, however enlightened, is, on its own, likely to pioneer rural change or check the movement from the rural areas. It has to be introduced with the utmost care so as not to exacerbate in the student an inherent dislike of anything associated with farming, and a suspicion that their education is being deliberately designed to keep them on the land with a perpetual involvement in the manual work which is so often despised. It would seem that a real change is only likely to be effected by linking educational advance with an improvement in the basic quality of rural life and the modernization of agricultural techniques.

Improved systems of land tenure and agricultural production and

marketing can drastically modify the unfavourable features of rural life. Traditionally, however, there are less incentives to progress in rural communities. There is a tendency to acquiesce with authority, and then do nothing!

A supreme aim of education should be to change the attitudes of the country children and ultimately of the whole rural populace. There is also an accompanying need for vigorous efforts in adult education which should be closely related to and, indeed, be an extension of the activity in the schools. One critical task is to increase the number and the qualifications of trained teachers to undertake this work.

One of the most urgent problems facing developing countries is the serious shortage of educated and trained personnel. This is true for all levels of proficiency, but is especially acute with regard to personnel trained for agricultural development and rural education, particularly as the bulk of illiterates are peasants. If agriculture gets bogged down and neglected, it becomes more difficult to develop anything else. Bringing new knowledge to peasant farmers is probably the most productive investment which can be made in any of the poorer agricultural economies.

Progress must be seen as well as debated. Successful agricultural education depends so much on the visible evidence of successful farming. It is imperative that agriculture's 'second-rate' status should be removed as a matter of extreme urgency by all means possible.

One of the most important tasks facing any administration is to examine thoroughly the importance of re-allocating effort as opposed to merely extending existing efforts. Given limited education resources the problem is one of putting what is available to the best concerted use possible, and this is largely what the subsequent chapters seek to discuss.

Curricula with a rural bias

1. General education

A majority of the Earth's inhabitants are peasants. Many of them are illiterate and have had no schooling. Most of those who have been to school have not progressed beyond the first level, and many of these have dropped out early or have failed to attend school regularly.

The sustained development of education is necessary to ensure progress in the rural areas, even though there is always the danger that this will speed up the exodus from the countryside of the most talented and best educated. If some educators argue that rural schools should concentrate on preparing youngsters to transfer to the city, this well-intentioned view just does not square with reality: the urban areas simply cannot absorb them.

On the other hand, experience has repeatedly shown that a revision of the rural school programme to include the installation of agricultural schools in country areas is not, by itself, the means of solving the problem. Quite apart from the need to add more education to what already exists, a fundamental change is necessary in the whole structure, direction and content of the educational systems in underdeveloped countries. The situation is, however, complicated by the fact that in rural areas the first-level school has a dual function to perform, and that teacher training must be orientated accordingly.

On the one hand, there are the small minority of pupils who can profit from a traditional type of academic training and who are likely to move on to second-level education and perhaps go even further. A decade ago, these pupils would have become the clerks and other subordinates who were such an integral part of colonial

machinery. Now some may aspire to becoming citizens of greater distinction, destined for posts formerly held by expatriates, or for other new white-collar jobs generated by the country's development programme. Many will train to become teachers for whom there is an ever-increasing demand as a country's extensive education plan moves towards reality.

At the same time, and on the other hand, there are the majority of pupils for whom a purely academic programme may be largely a waste of time, although one might reasonably argue that even the humblest peasant on a smallholding can benefit from being at least minimally literate and numerate. If nothing else, he will become more readily equipped to support and guide his children in their quest for education, and for a more enlightened attitude to rural improvement.

Ideally, and this is asking a great deal, first-level schools should be able to instil into their pupils a liking for country life and to lay the foundations for the comprehension of agricultural progress. They should show the necessary concern for training young people to fit into the environment in which they will find themselves after they leave school, with a curriculum which is imaginatively orientated to the life of the community. After all, it is on the subsequent achievements of these young people that so much of the country's future depends. They may help to bring about an era of relative prosperity, or they may exacerbate the problem of rural poverty.

What, then, can be done for these young people—the average and below-average—during the few years they are likely to be at school? The rural bias applied with a view to giving the syllabus added meaning and relevance may well prove to be the answer. It might help to evoke interest and curiosity, as well as serving to update and embolden the pupils' outlook, as opposed to merely striving for the assimilation of facts or the acquisition of manual skills.

I think it pertinent at this stage to provide an example of how the application of a rural bias might work at the upper first level. The first step is to select a topic or theme which both arouses the pupils' curiosity and lends itself to an inter-disciplinary approach. Where more than one teacher is involved you are then dealing with a project which is team-taught. No member of the team needs any highly specialist knowledge or skills in agriculture—only an interest and an awareness in the countryside around him and a willingness to extend himself beyond the constrictions and confines of the textbook.

A possible theme might be a simple and uncomplicated study of the cereal plant: maize. Maize, ground and consumed as 'mealie-meal', is the staple diet in many developing countries.

A small plot of cultivable land, not more than forty feet by twenty feet, in the precincts of the school grounds serves as a focus for the project without involving the pupils in endless dreary repetitive manual labour likely to alienate them from the start.

Assuming there are no significant differences in the soil texture and fertility within this small patch of ground, the area may be divided into eight equal strips. Dividing up the plot in this way provides a practical exercise in mathematics with a stick of measured length as the only equipment needed.

The next step is to sow the maize seeds which, ideally, would have been supplied by the local agricultural extension officer—the quantity provided being too small to warrant any financial transaction. But if the seed had to be purchased, what would have been the cost to the school at the current market price for maize seed?

Now the actual sowing. The first strip would be ordinary unimproved maize seed as used by the average farmer, planted in the same way and at the same time as in customary field practice. The second strip would be sown at the same time, and in the same way, but with a recommended quantity of fertilizer applied alongside the seed. In the case of the third strip, the same amount of fertilizer would be applied, not with the seed this time, but a few weeks later once the plant has emerged as a strong seedling.

In the fourth strip, the maize would be sown a month earlier than is usual, and in the fifth strip a month later. In the sixth strip the seeds would be placed closer together than is customary, and in the seventh strip they would be considerably wider apart.

The final strip would be a reflection of the extension officer's recommendations. An improved seed, specially bred for the purpose, would be used and the fertilizer application, the time of sowing and the spacing of the seeds would likewise be prescribed.

Here then, in miniature, are eight different methods of husbandry. Clearly, there could have been two or three times that number of permutations, but the wise school concentrates on 'a little done well' which is perfectly adequate for its own purposes. The aim is emphatically not to establish, in the light of past disasters, a so-called school farm.

The agronomist researcher would hold up his hands in horror at

the thought of plots which had not been statistically replicated. He would probably argue that pupils might form the wrong conclusions from their observations. It should, however, be remembered that these plots make no claim to be experimental trials. They are merely observation plots and, as such, they serve in a variety of ways as an aid to teaching.

Two or three times each week a group of pupils would inspect the plots and record their observations in their own way. Individual diaries would begin to evolve, some of them quite imaginative. The language might be utilitarian, but better than no language at all, remembering that projects like this are designed primarily for the less academically able, i.e. those who will learn more readily through the familiar than through the abstract.

Most of the children will be going back to their farms. If, as a by-product of such an exercise, they learn from their observations that the application of fertilizer may have an almost magic effect, that new varieties of seed can dramatically increase yield, that there are optimum seed rates and times of sowing, then so much the better. If nothing else, they will begin to appreciate that man can exercise some control over his environment and that even the humblest peasant farmer can do something to improve his lot. Thus, a more optimistic attitude of mind is frequently induced.

To return to the project. From the time of sowing to the time of harvest, there is unlikely to be any shortage of simple mathematical exercises. Writing need not be confined to keeping the above-mentioned diary. It would be hoped that the local agricultural extension officer would become actively involved in the technicalities of the project and that communication with him would be largely through letters devised and composed by the pupils. The ability to correspond clearly and purposefully is surely one of the most functional benefits of literacy.

As an introduction to science (in many instances, it may be all the science the pupil is likely to receive), studying the habit of growth of the maize plant from sowing and germination through to harvest time can become a fascinating study in the hands of an imaginative teacher who has recourse to the saucer and the plant pot, as well as to the outdoor plots.

In history, the teacher can recount how maize was first introduced into the country and how it helped to transform nomadic tribes into settled peasant communities and how more modern techniques of

cultivation can play so prominent a part in the country's development programme.

In geography, reference can be made to the use of maize in other parts of the world, including the developed countries where corn-on-the-cob is often considered quite a delicacy, or where it may be cut in its green vegetative stage and ensiled (i.e. pickled by induced fermentation), so that it can be eaten by the cattle in the winter time when the grass has temporarily ceased to grow. A good deal of maize is grown in the United States of America where it is stored as grain in enormous tower silos before being ground and fed as meal to fattening pigs destined for bacon. A selected letter from one of the children to the United States Information Service would probably prove to be very fruitful. Indeed, this is a tactic which can be adopted when searching for information from all over the world. I think it can be commended, not just as a literary exercise, but also as a means of adding a global perspective to the pupil's thinking. Perhaps it might even induce the child to make greater use of the word 'why' and to begin to develop an enquiring mind. Why, for instance, is maize so often the staple food in African countries, whereas in Asia the basic food is rice?

Whilst on the subject of food, the girls can relate their homecraft to the maize project. Young though they are, they can be made aware of the fact that maize is not, in itself, a balanced food and that total reliance upon it will inevitably lead to malnutrition. Whenever possible they will produce dishes where the 'relish' (as it is called) will provide the necessary protein supplement, often derived from fish. Whilst the girls are doing their homecraft, the boys might well be doing handicrafts related to the maize project—the making of basic tools for instance.

A final word is added on the application of a rural bias to a central theme. One of the aims is to widen the pupil's angle of vision and to deepen his understanding of the world around him; a world in which changes are taking place more rapidly than ever before in history, and the momentum will undoubtedly increase and gradually spread to all the corners of the Earth. In this context, the pupils, particularly the older ones, need the experience which is to be gained outside the classroom. The 'maize project' can also provide for visits to farms in the neighbourhood—perhaps even to a farmers' co-operative which has a tractor and which buys seed and fertilizers in bulk. The possibilities are endless in the right hands. As we shall see

later, however, there are also pitfalls which are ubiquitous, so much so that the teacher is relieved to be able to crawl back to cover behind his tried and trusted (but old and outdated) textbooks. This, at least, will not put unwarranted strains on his powers of imagination!

The aim, then, is to provide general education in an agricultural setting—not the other way around. The teaching has a relevance to the world of work, with the agricultural theme as essentially a means to an end, and not an end in itself. It may provide a lead-in to vocational training, although this is essentially a by-product of the course.

Is this application of a rural bias as straightforward as it appears? The answer is an unqualified 'no'! First you need energetic and enthusiastic teachers with flair and imagination and, included in their number, a natural innovator to act as a leader for team-teaching purposes. This may, of course, be the head teacher in a relatively small school. The content of the course could well be a consummation of ideas expounded during teacher training, or during subsequent in-service training. The teachers need to be good planners and organizers with the ability to liaise with local farmers and secure their interest and co-operation. Of vital importance is the need to know how to use, rather than abuse, the school plot under cultivation. Tasks the pupils are called upon to perform must have an educational significance. It is not a case of turning the pupils loose with their hoes and rakes instead of keeping them at their uncomfortable desks in the classroom. The extent to which the school plot is used imaginatively can largely determine the image of the course.

The idea has long since been rejected that practical agriculture will lead children to believe in 'the dignity of manual work' or that school gardens are used to beautify the school compound in the process of teaching the subject. It has not been uncommon in the past to find work on the school plot being carried out for punishment purposes.

Should the burden of agricultural training be placed upon a specially designed vocational element in the syllabus, perhaps given the title of Rural Science? The persistent failure of low-level agricultural schools suggests that this direct approach is out of place. One of the reasons is that the teaching ideas and materials have not always been the product of persons having an intimate knowledge of local agricultural practice.

Rural first-level schools, as a whole, can be expected to contribute substantially towards achieving a variety of objectives affecting the quality of life of the rural population. These include the ambition

for more desirable standards of living; enquiring minds which are not governed by tradition and superstition; increased foresight and a readiness to co-operate especially where innovation is concerned; a willingness to work hard given reasonable incentives; the ability to read instructions, write for advice, calculate crop yields, as well as to apply their handicraft skills; and a knowledge and understanding of the economic and social changes which are taking place around them.

These changes in attitudes and understanding, as well as in the quality of thinking, cannot be acquired by additions to the curriculum, but rather by permeating all the teaching with these new and realistic ideas so that they become part of the pupil's thinking and make-up, applicable in all relevant situations.

With teachers poorly educated and often untrained, every known and feasible device must be employed if the individuals concerned are to add this extra dimension to their teaching and to their influence on the children. These devices would include refresher courses, help from peripatetic advisers and from local extension workers and the provision of supplementary teaching materials, including textbooks and a comprehensive manual designed to encourage the teacher's thoughts and interests to range far beyond the close confines of the classroom to the complicated changing affairs of everyday life outside. Above all, this element should be given due emphasis in the basic training of teachers so that they are fully able to increase the total relevance of the school to the countryside.

After the first-level school, it is normally only an academically élite minority who can be found a place in the limited number of second-level schools which usually exist in an under-developed country.

A second-level education of the traditional 'grammar school' type will provide the more academically able with a passport to a college or university. Although virtually all the pupils strive diligently for this goal, not all will succeed, and even if they do, third-level education is not geared to offer places to them all. It is, therefore, inevitable that some must leave after taking their School Certificate to become clerks and minor officials, or else enter commerce and industry, hopefully in a white-collar role. Some, however, may obtain entry to a technical, commercial or teachers' college for one or two years of vocational training.

Few would argue that the academic curriculum is beyond reproach,

but in the circumstances of a developing country, there are so many reforms and innovations urgently requiring implementation in other areas, that this curriculum, despite all its colonial overtones and its dogged adherence to the unimaginative, must accept a relatively low priority in terms of re-evaluation and revision, at least for the time being. To my mind it is the aims and objectives of the village schools which should be urgently occupying the minds of the educational pundits!

2. Vocational training schemes

The development of a system that will allow young people to be given agricultural training as soon as they leave first-level school has rightly been a matter of concern in all countries. It will become increasingly important with the extension of education and the obligation to guide a majority of young people into employment on the land in view of the lack of adequate opportunities in other sectors of the economy.

Historically it has been thought that all that was needed to farm effectively was experience, based mainly on tradition and actual work on the land. Technical progress has, however, begun to bring modernization to the countryside and appropriate vocational training, therefore, has been found essential to enable peasant farmers and producers' co-operatives to cope correctly and efficiently in a situation which is new to them. Training schemes are usually established at regional and local levels concentrating on agricultural training centres, often referred to as 'farm schools'.

Training needs to be as extensive as possible, and must cover not only the technical questions that arise in the agricultural field, but economic and social matters as well. The programme should be simple, practical and unpretentious, and based on the observation of facts and the practice of farming operations. It should not be rendered meaningless by the inclusion of a surfeit of arid and indigestible helpings of theory. If anything, the emphasis should be on the acquisition of up-to-date practical skills.

Training at the lower vocational level should be a responsibility confined to as few government departments as possible and should make all-round personnel fully conversant with rural customs, traditions and outlooks available to the communities. Seldom is the Ministry of Education involved, and it is very rare to find

any trade instructors trained in teaching methods at the grass-roots level—a situation which needs to be rectified at the earliest possible opportunity.

The equipment of the vocational training centres and their 'model farms' must not be beyond the reach of the majority of cultivators, and thus in practice present little usefulness to them. Similarly, the improvements advocated must be capable of practical application by the peasant farmer who must see good prospects of real cash benefits from adopting new methods.

The need to provide vocational training for all those who work on the land, regardless of their position in society, the kind of holdings on which they work and their particular occupations, has led to a diversification of training methods and systems.

Such systems can be reduced to two main types:

- a) Training on the farm through the agricultural extension services. This applies primarily to persons already engaged in agriculture who find it difficult to leave their farms for long. It will be referred to again in a subsequent section which deals with adult education.
- b) Training in apprentice-type vocational training centres catering particularly for youth. (This does not, of course, presuppose that young people will receive no further training throughout their working lives.)

Where residential training facilities are unavailable or oversubscribed, the training of young people may take place on the family farm. An example of this system is the working of Young Farmers' Clubs. The sons of farmers carry out elementary practical work relating to definite subjects, such as the breeding of pigs, the raising of calves, the keeping of poultry, or the care and use of a tractor. This is done under the supervision of local agricultural extension workers and in accordance with a predetermined programme. (Some successes have been recorded with Young Farmers' Clubs in rural schools, particularly those which are residential.)

A compromise between full-time institutional training and part-time on-the-job training is the 'sandwich course'. Here the trainees take several courses at the vocational training centre, and after each course they return to their family holdings for varying periods of time. This provides a worthwhile alternation of theoretical and practical training, and allows workers to be on their holdings at the busiest times of the year.

A conventional apprenticeship is largely out of the question.

It pre-supposes that there are enough farmers with the requisite qualifications and skills to direct and train apprentices, which is rarely the case in a developing country.

For the smoother running of training schemes it is important that permanent liaison should be established at the local level between extension staff and the instructors in the centres, and a complementary programme agreed upon so that the farmers and the trainees are confused as little as possible. Carefully planned and operated schemes can be quite inspiring and the enthusiasm of the trainees infectious. Conversely, an ill-conceived and apathetically executed programme can be indescribably bad, doing nothing but harm to the rural community.

It is generally accepted that on leaving first-level school, many young people leave their villages to look for work in the towns. Probably they will join relatives there, but an alarmingly high proportion will remain unemployed. Some countries have had to take special action to provide work in rural areas, for instance by organizing youth camps or settlement schemes.

The Youth Service is a scheme, adopted by many developing countries in their immediate post-independence period, whereby half-educated unemployed and landless adolescents are given the opportunity to work in return for food, a uniform, camp accommodation, pocket-money (but no wages) and a few hours of education and training each week. The community project concerned is usually run by the local governments under the auspices of the Department of Social Welfare (or its equivalent) in association with a Rural Development Programme.

The aim is to try to cultivate a sense of purpose and loyal citizenship in the disadvantaged youth, and at the same time engage them in projects which will help to alleviate rural poverty. (Comparable schemes also exist in urban areas but they are usually not so numerous.) Some of the girls who have completed first-level school, but have gone no further with their education, are also catered for, with the emphasis on homecraft training.

The scheme, though admirable in concept, is fraught with difficulties. There is always the problem of finding suitable youth leaders, and it has not been unknown for youthful expatriates to be temporarily employed in this capacity. The difficulties are exacerbated by a certain distaste on the part of the youths for sustained manual work. Then there is the problem of finding suitable trainers, probably

in short supply at all levels throughout the country, with the Youth Service commanding only a low degree of priority. Local village teachers may give literacy and numeracy classes in the evenings, and a vocational instructor might visit a camp on one day each week.

The communal approach to farming methods is considered sound socially and ideologically, as well as technologically. Communal self-help is claimed to offer an alternative to a colonial-type dependence on extension expertise radiating outwards from an alien centre. Despite the difficulties, and there are many, the future of developing countries, so overwhelmingly agrarian, is closely linked to the successful establishment of settlement schemes and farmers' co-operatives. It is important to take this into account in designing all levels of training programmes.

3. Training the extension worker

It is clear that the extension worker has a key role to play in any country's rural development programme and, no matter what level we are considering, it is vital that his training should be meaningful, imaginative, broadly-based and with sufficient practical orientation to enable him to freely communicate with the villager whom he is being employed to help.

Despite the need to cater for different educational backgrounds and differing levels of career aspirations, it is surprising how many features the two-year 'certificate' training and the three-year 'diploma' training courses have in common when it comes to the sort of basic principles and philosophies which I shall now try to enunciate, as applicable to farm institutes, colleges, or whatever title is given to such establishments.

1. I believe that rural development is a concept which must be viewed in its entirety, and I therefore greatly favour the multi-disciplinary approach where those concerned with agronomy, livestock production, forestry, fisheries, co-operative management, community development, and even rural homecraft, are all trained under the one roof. Besides fostering a deeper understanding of one another's activities and commitments, it is likely that bonds of friendship will be forged which will ultimately pave the way for concerted team-work in the field instead of the usual sickening inter-departmental rivalries.

2. There are certain 'common core' subjects which can well be taken by all courses together, which is not only pedagogically sound but also offers considerable manpower and financial saving. Some of these subjects would be designed to repair omissions and shortcomings in entry standards by strengthening the language of instruction, mathematics and science. In some countries it is by no means unknown to encounter a would-be agricultural diplomat with no school science! Other subjects of common concern would be government structure and procedures, extension services, office management, and records and accounts. To these should be added an overview of the economic and social background of the country, to broaden the students' outlook and prepare them for participation in the country's development programme. These all help to provide for the development of personality and character, as well as the fostering of a capacity for understanding, judgment, self-expression and adaptation to varying environments. This can be carried a stage further in the senior years by placing emphasis on project work, case studies and individual assignments, all based on problems which the student could be expected to meet in the field—problems to be sorted out in a detailed way involving initiative, decision-making and the development of a constructive approach towards solving problems. Most such problems are essentially of an interdisciplinary nature, and they would make demands on the individual qualities of any competent member of an extension team in the field.
3. So far as specialist instruction is concerned, one of the pitfalls inherent in theoretical training at this level is the way in which it can so readily be geared to the assimilation of bare facts by means of rote learning which, besides being bad teaching, is of little use to the future extension worker whose reasoning must be flexible in order to meet any situation which may spontaneously arise in his dialogue with a peasant farmer.

One question is whether a watered-down version of a university syllabus is of any value at all. Surely, it can be argued, an institute or college syllabus should be capable of developing a character and approach which it can justifiably call its own. I doubt whether there is any case at all for including great wads of agricultural botany, nutrition, soil science and genetics as subjects in their own right. Personally, I favour the idea of interspersing the discussion of husbandry techniques with simplified scientific ex-

planations. In this context I feel there is an urgent need for suitable textbooks and teaching manuals.

4. The programme must not be so full that it does not allow time for detailed discussions about the history and the changing structure of the rural community in which the extension worker will find himself living and working. Extension techniques are seldom innate to the extent that they do not need to be acquired. Some very simple psychology relating to ways and means of 'selling' new ideas to inherently conservative country people is, to my mind, an essential ingredient of the course, but how seldom one finds it included at all at this key level! It is a part of the programme which, ideally, lends itself to group discussion.
5. When it comes to assessing students, it is my belief that somewhere in the region of 50 per cent of the aggregate marks should be awarded for practical aptitude and know-how. Only in this way can it be ensured that an extension service will enjoy the practical reputation it needs in order to function effectively and enjoy the confidence of the rural community. If an extension worker visits a peasant farmer who is having difficulty with his tractor and he can diagnose and rectify the trouble on the spot, then not only is he likely to enjoy the confidence of that farmer for years to come, but the farmer will spread the word amongst his neighbours so that our competent extension worker may practically become a legend in his district—so much so that any suggestions he might make in the future in connexion with improving husbandry methods are likely to be well received and his extension work becomes that much more successful.

Students should be expected to undertake routine practical work appropriate to their course on a rota basis outside the normal study day, and this requires the provision of a highly intensive and diversified teaching farm probably extending to several hundred acres.

The farm should ideally include a wide variety of crops and livestock, pastures (both natural and reseeded), horticultural crops, orchards, irrigation, a wide range of simple functional farm buildings which the students might help to erect and maintain, a variety of mechanical equipment and a substantial workshop allowing space for instructing groups of students, a demonstration arena particularly suitable for handling livestock, a 'plant library' comprising small observation plots of different crops from different parts of the country,

a further lay-out of demonstration plots capable (as an 'outdoor laboratory'), of providing teaching aids for agricultural science, a forestry plantation, a fish pond, a weather station, and experimental plots laid out in conjunction with the local Research Station—the idea being to show students exactly what is involved in experimental and research work and in seed production associated with plant breeding. In addition, the girl students would have access to a small farmhouse and garden, as part of a demonstration peasant farm unit.

The management procedure adopted should be that each lecturer plays an active part in the management and policy-making of the enterprises with which his teaching is concerned, and that over-all co-ordination is in the hands of a 'Farm Director and Organizer of Practical Classes'—a senior member of staff, who would be expected to hold regular planning meetings with the various interested parties. In my experience, a meaningful teaching farm inevitably reflects a busy and purposeful training establishment.

As a service to the local community, I would recommend that regular open days should be held on the teaching farm and the demonstration unit. Not only that, but I believe a feature of the establishment's activities should be the provision of regular in-service courses for personnel already in the field. Carefully planned and executed, these can be of enormous value, not least of all in terms of sustaining staff morale.

Given reasonable finance and, most important of all, a keen, imaginative and effective staff, an institute or a college, perhaps more so than a university Department of Agriculture, would appear to lend itself to innovation.

Many universities, training extension staff at the highest level, offer services which are ineffective because of the highly theoretical, conceptual, even abstruse nature of the teaching and the research, neither of which may be related to developmental problems to the extent so obviously desirable. Instead, they may be, and often are, largely divorced from the life and problems of the workers in the countryside and the governments which have to formulate policy.

What is needed is a supply of graduates of high quality with a sense of vocation, prepared to serve wherever they are sent, and capable of understanding the milieu in which they are working.

One of the director's main responsibilities is perpetually to keep in mind, and pass on to those whom he influences, the concept of a government and people who have decided that their major efforts

must be directed towards the development of the country's rural areas, and that rural development should essentially aim at raising the economic, social and cultural levels of the rural population.

He must ensure that, from the outset, the student develops a realistic approach to the philosophy and mechanics of the co-operative movement; the constraints on the productivity of subsistence farmers; the nature and problems of extension work and community development; the importance of incentives where an improvement in rural welfare and agricultural development is concerned; the role of the business industry in rural reconstruction; the role of crafts, small industries and village markets; the introduction of credit facilities, including an understanding of local social values with respect to borrowing and to the repayment of loans; comprehensive studies of land settlement schemes; the effect of education on rural development; the encouragement of total rural community endeavour rather than a piecemeal approach with the various enterprises functionally unconnected.

Certainly, the design and implementation of a university curriculum in agriculture poses its problems. Subjects are taught, in the main, by specialists, many of whom have achieved a high reputation from their research attributes rather than their teaching acumen.

From the students' point-of-view, a bewildering patchwork of specialist knowledge may be a likely end-product rather than a coherent picture of a rural society with its inter-related human and husbandry problems,

Clearly, there is a strong case for including in greater depth the non-vocational subjects already recommended for colleges and institutes. Extension methods, research methods and training methods could be offered as electives according to career intentions. An inter-disciplinary course such as 'Man in Society' might well be mandatory. Few would argue against Rural Sociology being essential. A strong case could also be made for Rural Psychology, especially since the immemorial rhythm of rural life must at all times be heeded and understood.

Finally, a word about the possibility of establishing a Department of Agricultural Education at university level. Besides participating in certain aspects of teacher, instructor and lecturer training, this department would contain a special Curriculum Development Unit charged with the preparation of teaching materials at all levels, including illustrated texts, filmstrips and video-tapes of 'practical

classes' in agricultural skills. An alternative title for this department might be the 'Institute of Agricultural Education'. It would also be expected to conduct research into training methods, probably from satellite centres in the provinces, which might also provide short courses as another of their functions.

4. Adult education in rural areas

Adult education and training are vital elements in any programme of rural development. Some educational planners would go so far as to suggest that where a developing country is operating on a stringent budget, there may be virtue in slowing down the expansion of first-level education, at least temporarily, and concentrating the maximum of energy and resources on providing agricultural education for the adult population.

It must be acknowledged that literacy is needed for acquiring higher skills in all occupations, and that agriculture is certainly no exception. Adult education would do well to aim simultaneously at reducing illiteracy and alleviating other educational inadequacies, at the same time as providing occupational training through short courses and the provision of guidance from the extension services.

It would seem appropriate to enumerate the various services which it would be reasonable for a government to make directly available to the farmer and his family as an important feature of their rural development programme.

1. The village school should, ideally, become the centre of the community, with the teacher as an important member of any community development team. If he assists in conducting adult literacy classes outside normal school hours, he should be remunerated accordingly, and this might well prove to be an added incentive when it comes to keeping him in a remote rural area.
2. The farmer should be able to benefit from the regular services of a competent agricultural extension worker capable of instilling confidence into the local farming community. The same would apply to settlement officers and other government agents concerned with community development projects.
3. Vocational training centres, as already discussed, should provide a service for the farmers of the present as well as the farmers of the future.

4. For mass training programmes, the educational media have an important part to play through radio, mobile cinema units, slides, film-strips, tapes and, for the literate, simple illustrated booklets, bulletins and news-letters.
5. Activities other than those specifically catering for the peasant farmers need to be included, because the prosperity of country life is not complete without the efforts of mechanics, electricians and craftsmen of all kinds; those who provide water supplies, roads and irrigation canals; those who build houses, schools and health centres; and those who are concerned with the development of trade and perhaps even some local industry.
6. Despite the inhibitions of tradition, the importance of the woman's role at village level must not be overlooked. A remarkable degree of versatility is expected from her in terms of diet, health, hygiene, housing, child-care and other aspects of homecraft, as well as her contribution towards food production. Provision should be made for the particular needs of women at all levels of education and training, for, in terms of rural development, they have an indispensable part to play.

This is perhaps a long-term concept. In the short-run, Women's Clubs can bring considerable benefits to village life, provided the necessary experience and expertise can be found to ensure the viability of such projects.

7. Leadership can well account for the differences between the success and failure of any community development project, and attempts to up-date farming methods (in the broadest sense) are no exception. Improbable as it may sound, under certain circumstances, successful socio-vocational courses have been run for local councillors and village elders and, indirectly, the results have been remarkably impressive.

5. Training the teacher

A recurrent theme throughout these chapters has been the assertion that, given the most meaningful and realistic education and training programmes which those with experience, imagination and foresight can devise, in the final analysis no real achievement is possible without the necessary cadre of trained and motivated teachers, instructors and demonstrators at the various levels of the hierarchical structure.

We are, in effect, dealing with two broad categories of contributors. First, there are the trained field workers who should be adequately versed in the rudiments of teaching, and second, the trained school teachers who should be familiar with the rudiments of rural sociology and agricultural techniques. Whichever category we are dealing with, the 'trainers of trainers' are seen as the key to any 'education for rural development' programme. This is easy to say, but infinitely more difficult to achieve in practice. The best teachers tend to congregate in the cities, while the education and training of rural youth is left in the hands of inferior practitioners. Not only is there a need for the radical reform of curricula, referred to so often in these chapters, but also for a dramatic change in the whole spirit in which these trainers and teachers operate.

Taking first the case of the rural school teacher, various training policies are possible:

1. At the highest level, namely that of the graduate (a relatively rare entrant to the profession, especially in the rural sector), a three or four-year course in an Agricultural Education Department (if such exists) in a university would probably be ideal. Such graduates, subsequent to appropriate classroom experience, should be sufficiently mindful of the needs of a rural community to make useful administrators, planners, inspectors and curriculum advisers.
2. For those with an ordinary School Certificate (or its equivalent), an interesting possibility would be enrolment in a diploma college where there is a multi-disciplinary approach and where rural education could easily be included as one of the three-year options.
3. The normal process of teacher training, but with a strong orientation towards rural studies. There is a clear case for closer liaison between teachers' colleges and diploma colleges concerned with rural development, especially if these establishments are in close proximity to one another—sufficient perhaps to allow for the interchange of teaching staff as well as a general cross-fertilization of ideas.
4. Special in-service training courses for established teachers, aimed at creating on the part of these teachers a new excitement concerning agriculture and a realistic appraisal of its potential. Such courses could be held at either diploma colleges or at teachers' colleges.

Moving on to the case of the vocational teachers, again various training policies are possible:

- just so long as its services can be made available to all those who need them.
2. There is often a case for the involvement of a full-time agriculturalist at certain teachers' colleges and, conversely, a full-time educationalist at some agricultural institutions, especially if he understands not only training techniques but extension skills as well.
 3. Refresher courses are vital. They can be organized centrally by the Curriculum Development Unit, or they can be incorporated into the regular training programme of different institutions at different levels. Their concern is with up-dating techniques, whether these are applied to content or to methodology. Training must be kept up-to-date, otherwise there is the constant threat that teachers will resist changes with which they are not familiar, with the result that their efforts become ineffective.
 4. Teacher morale in the more remote rural areas cannot be taken for granted, especially as many teachers and trainers would prefer an urban posting, despite their almost certain involvement as a key member of the local rural development team. It seems that it is not enough to appeal to dedication and job-satisfaction alone. It has been suggested that certain fringe benefits might be made available to the rural teacher, such as a salary differential for those serving out in 'the bush'. (There are certain countries where a spell of country service is an essential pre-requisite for promotion.) Above-average housing always helps; it adds to both comfort and prestige. Bursaries for the education of the teachers' children have also been suggested. These would enable them to leave the village to continue their second-level and perhaps even third-level education. No doubt there are many more ideas which would help to stabilize the situation.

No-one in rural areas expects to attract the intellectual cream of the profession, but it is important that they get their fair share of competency, otherwise the rural areas are likely to become steadily more disadvantaged, especially as industrial areas develop.

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Recommendations and conclusions

Most of the recommendations have already been explained in the relevant sections, but there are a few general ones worthy of mention by way of a conclusion to this survey.

1. The economics of agricultural production are a highlight of most development plans. It is imperative to change from a subsistence to a cash economy, and to increase agricultural output to the point where the export of produce becomes possible, so that its earnings make industrialization and modernization a reality. If this calls for innovation, then innovation there must be, and rural education is no exception.
2. Innovation does not mean a sudden explosion of new ideas by ephemeral enthusiasts and visiting experts. It should be gentle rather than volcanic in its introduction. Under certain circumstances pilot schemes have much to commend them.
3. What is needed is a comprehensive rural development policy aimed at raising the standards of living of the country people through increased and diversified economic activity. This implies a greater allocation of resources in their direction than is at present the case. Rural development planning should comprise the establishment of rural towns, roads, transportation systems, communications, banking and credit facilities, marketing and commercial services, rural industries, and health, education and social services. Therefore, it is clear that the strategy of development must be an integrated, concerted approach by all the parties concerned. Education and training can only make their maximum contribution in conjunction with an over-all policy of this kind.

4. If rural reconstruction is to involve the development of the total village community, then spheres of ministerial interest are bound to overlap. Co-ordination is essential: pettiness, jealousy and stubbornness have rendered stillborn many a worthwhile project. Curiously enough, this unnecessary wastage always seems worst in matters concerned with training, perhaps because so few Ministry officials have had direct experience in this field. I would recommend the formation of a high-level Rural Education Council under the chairmanship of a senior member of the Office of the President or Prime Minister. The Council would have executive powers and would stimulate and co-ordinate training requirements at all levels. The Executive Secretary would need to be an experienced agricultural educator.
5. If the function of the Rural Education Council is to be executive, then it needs support from a body which is both academic and advisory, and this is, as I see it, one of the important roles of the Department of Agricultural Education at the university, especially if it is supported by a really viable Curriculum Development Unit, as well as being able to carry out meaningful and practical research projects in agricultural education. These would include the pilot schemes mentioned in paragraph-2.
6. A regular exchange of ideas and experiences at the international level in the broad area of agricultural education and training would also be of immense value.
7. There is almost certain to be a critical manpower problem, especially where training is concerned. Manpower planning may be considered a luxury in an advanced economy, but in a developing country it is a matter of dire necessity.
8. In the final analysis, a key factor is the enterprise and the fortitude of the rural teachers, trainers and extension workers. If their efforts represent the weak link in the chain, no development programme, however well conceived, is likely to become fully viable. It would be well worthwhile carrying out an investigation into the status and role of these rural practitioners, so that everything reasonably possible can be done to raise and to maintain their commitment and morale—ideally, to the point where they no longer yearn for the bright lights of the city, but were able to apply themselves wholeheartedly to help in the awakening of the countryside.

9. It is important that those concerned with the various aspects of education preserve a sense of proportion instead of being torn between the two extremes of doubt and pessimism on the one hand and naïve optimism on the other.

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The following books, produced in but not published by the Institute, are obtainable through normal bookselling channels:

Education in industrialized countries by R. Poignant

Published by N.V. Martinus Nijhoff, The Hague, 1973

Managing educational costs by Philip H. Coombs and Jacques Hallak

Published by Oxford University Press, New York, London and Toronto, 1972

Quantitative methods of educational planning by Héctor Correa

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The book

The author argues that agricultural education, however enlightened, is unlikely on its own to pioneer change or check the movement from rural areas. Mr. Coverdale counsels a general educational advance linked with an improvement in the basic quality of rural life and the modernization of agricultural techniques. He outlines some ways in which the efforts of organizations and institutions concerned with rural education might be improved and expanded.

The author

After many years' experience in agricultural education, both in the United Kingdom and in Zambia, G.M. Coverdale is at present a lecturer at Macquarie University, New South Wales, Australia.