Notes on agricultural training in rural areas of developing countries

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Summary

Relatively speaking, many developing countries still devote too little attention to the question of agricultural training in rural areas in spite of the fact that such training for the farmer and his family is essential for the accelerated development of the agriculture peculiar to the countries concerned. Special emphasis is placed on the training of both farmers and their sons.
The advantages and disadvantages of a number of training systems are discussed in detail.

1. Introduction

There is now general agreement on the fact that the development of rural areas is determined to a greater or lesser extent by the intellectual level of the agrarian population. If he is to understand anything of farm improvement methods, for instance, or of the rationalization of farming, or of book-keeping, the farmer must in any case be familiar to some extent with reading, writing and arithmetic. It is fortunate in this respect that an increasing amount of attention has been devoted in recent years to the mass development and extension of primary education and – albeit on a smaller scale – to the question of agricultural training. If we are to achieve tangible results within a comparatively short space of time it is essential that both general elementary education and agricultural training be organized on a grand scale (DUMONT, 1964). This is possible only when there are sufficient teachers and educational facilities, and when the educational system selected does not place too great a strain on the financial resources of the country concerned.
In view of the fact that, generally speaking, the elementary education provided in the developing countries has now reached a higher stage of development, it more or less follows that agricultural training should be designed to link up with it. It will then be possible to build up agricultural training at a fairly rapid pace.
It is not the writer's intention to examine all aspects of agricultural training in the space of this article, which will be confined to discuss a number of different training systems. Moreover, the systems discussed relate only to the farmer and his son; training courses for his wife and daughter remain outside the scope of our discussion.
It would be as well at this point to define our terms in the interests of clarity. *Agricultural training* is used here in the sense of training the farmer and his family in agricultural methods. The *object* of that training is to assist the farmer and his family to increase their knowledge of farming practices and to fit into their environment

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as part of a general endeavour to promote the development of agriculture. The *task* of that training within the framework of the general objectives is to contribute to the agricultural schooling of the family on the land.
This article is solely concerned with: (*a*) the training of farmers' sons to enable them to become good, efficient farmers, and (*b*) the imparting of the agricultural knowledge necessary to enable the farmer to run his farm effectively and efficiently under the changed conditions of today. Moreover, he should be encouraged to appreciate the value of advice and assistance proferred him by the staff of his local agricultural extension service.

A sound approach to the question of a rapid expansion of agricultural training is to link it up with the existent elementary educational system. If favourable results are to be obtained in this way, the two following conditions must be fulfilled: (*1*) a supplementary training course must be instituted for the village or primary school teacher to fit him for the task of local agricultural instructor, and (*2*) it must be possible to make use of primary school facilities such as buildings, equipment, gardens, etc. An important question that presents itself at this point is: should agricultural training be separate from general elementary education, i.e. an extension of it, or: should it be incorporated in the general educational programme so that the two streams can be combined to form a rural educational system?

The former is often chosen for the simple reason that the incorporation of agriculture in the primary school curriculum often gives rise to special difficulties. It means, for example, that the general subjects are given an agricultural slant and that they are adapted in some way to various aspects of farming as practised locally. In regions specializing in the cultivation of rice, for instance, reading and arithmetic will have to be orientated towards the laying-out of the paddy fields, tilling the soil, planting, weeding, harvesting, processing the rice, irrigating, etc. In regions where perennial cash crops are the main product, the accent will have to be placed on the crops most widely grown, the cultivation methods used, the harvest, processing for the market, financial return, etc.

We shall now proceed to consider a few of the training systems with which a varying amount of experience has been gained in a number of developing countries. There are, of course, an infinite number of variations on each of the systems described. The data on which this appraisal is based are for the most part derived from personal observation and experience, supplemented from the literature on agricultural training in development countries. As stated above, this article makes not the slightest claim to completeness. Nevertheless, it would seem to be a good idea to record that practical experience since a number of the training systems concerned are barely, if at all, mentioned in the literature. The following subjects will be discussed:

— Schools for agricultural training and farming practices.
— Village farmers' courses.
— Training courses for village agricultural instructors.
— The elementary agricultural school.
— Continued assistance for graduates of the agricultural schools and village farmers' courses.
— Training institutes or centres for local leaders.
— Postscript.

2. Schools for agricultural training and farming practices

In addition to classrooms, this type of school usually has residential quarters and a farm that is often based on the type of farm most commonly found in the surrounding district or region. It aims at training farmers' sons who have completed their primary education to become independent and efficient farmers. The students board at the school and are sometimes employed as workers on the school farm. Many of these schools are established with the idea that they be self-supporting, that is, all running costs, including food and other expenses incurred by the students, are to be met by the school farm. The theoretical side of the course is designed to be kept to a minimum, the main emphasis being placed on practical experience. The duration of the course varies from 2 to 4 years. The school principal is likely to be a trained officer of the agriculture extension service.

Schools of this type are said to possess the following advantages: they offer the student a thorough practical knowledge of the farming practices required for the local type of farming. Moreover, he also acquires the basic principles of farm economics, to which end he is taught elementary bookkeeping, and they encourage the student, by virtue of the fact that he lives and works with the group, to act in an independent, self-confident manner and at the same time instil in him an appreciation of the cooperative principle.

Neither of these two ideals is often realised in practice. Nor can many of these schools be said to be self-supporting, not even those where one-man holdings have replaced the collective farm. This situation compels the Governments concerned to grant sizeable subsidies, which means that the schools, with their accommodation for only a limited number of students, are extremely expensive to run.

The objections often put forward against this type of school may be summarized as follows:

(*1*) The students are removed from their homes at an early age and remain away for a number of years. On returning to their villages at the end of the course many of them prove to have lost all contact with their former environment.

(*2*) The teaching of farming practices directly applicable to the type of farming practised in the district often has to depend on years of experimenting by the agricultural extension service and the agricultural research stations.

There must be absolute certainty that the practical knowledge imparted to the students will bring about decidedly good results when they come to apply it to their own farms. In other words, the content of the course must be geared to the innovations that can be carried out. Actual subjects of a local or regional nature are always limited in the initial stages, so that the course often tends to take an increasingly theoretical turn. And purely theoretical knowledge can seldom be turned to account in practice.

(*3*) Many graduates of the schools are either too young or lack the means to establish their own farms on completion of the course. If they are allowed to assist on the parental farm, their newly-acquired knowledge is of little or no value since they have absolutely no say in the matter of running the farm.

(*4*) The operating costs of such schools being on the whole very high there is no question of a widespread extension of this type of training. One of the reasons for this is the fact that they can admit only a limited number of students.

(*5*) The expectation that the agricultural schools would function as agricultural centres exercising a strong influence on farming activities and the agricultural develop-

ment of the surrounding district has generally proved to be illusory.
Regarded as an experiment, however, the agricultural school has yielded valuable information on a number of points.
(*1*) The actual results of agricultural training courses established for young people lag far behind expectation.
(*2*) The result is the same when the training includes too much *theory* (general educational agricultural courses). The main accent should be placed on the *practical* aspects (courses on farming methods and techniques), i.e. on concrete agricultural knowledge that can be applied locally.
(*3*) Running an agricultural school should include seeing to it that graduates obtain a farm of their own.
(*4*) The students' lengthy absence from their villages results in their alienation from their former environment, so that on their return they no longer feel that they belong. The urge to migrate elsewhere is thus strengthened.
Though the agricultural school has its shortcomings, it is nevertheless acceptable under certain circumstances: when a country is so thinly populated, for instance, or is so lacking in means of communication that regular attendance at school, even once or twice a week, is out of the question. In situations of this sort the advantages of the boarding-school system will outweigh its disadvantages, provided the following points are borne in mind:

— Students should be at least 16 years' old at the time of enrolment. Should they have forgotten what they learned at primary school they should be placed in a preliminary class for six months to refresh their knowledge of reading, writing and arithmetic.
— There should be sufficient free land in the vicinity of the school to make it possible for those completing the 2 to 4 year course to settle on their own holdings, on which the preliminary work should be carried out before graduation.
— If this is not possible, and graduates are obliged to return to their own villages, then it is recommended that not individuals but groups comprising at least five persons of approximately the same age be recruited from each village. On their return to the village they will be in a better position to oppose the negative attitude of their elders.

3. Village farmers' courses

These courses are instituted for the benefit of both farmers' sons and adult farmers. They are given on one or two afternoons a week for a period of 1 to 2 years. Though at first the main emphasis was placed on providing instruction for young people, it was soon realized that the courses would yield better results if directed more towards the older farmers with holdings of their own.
The difficulty with regard to the young people is again that they are really too young at the time of completing the course for it to be of lasting value. For that reason, it would be advisable to raise the minimum admittance age to somewhere between 16 and 22 years.
It is also recommended that agreement be reached with the parents that their sons be given the opportunity, on completing a course of this sort, of running part of the family farm. The young farmer would thus be able to put what he has learned into practice in the way that he thinks best.
Another difficulty frequently encountered is the fact that the students have forgotten

much of what they learned at primary sschool, i.e. reading, writing and arithmetic, so that it is often necessary to teach them these basic subjects anew. An effective way of doing this would be to institute an introductory course of, say, 6 months' duration.

A great deal of importance is still attached in many countries to the idea of a school garden. Experience has shown quite clearly, however, that it does not always come up to expectation. The village farmers' courses now give preference to practical work carried out on the farms of the trainees themselves. In addition, an increasing amount of value is attached to group excursions to well-equipped and well-run farms of former trainees, for instance, or to pilot and demonstration farms run by the agricultural extension service.

There is no doubt of the fact that courses for farmers and for farmers' sons can usually be successfully combined, particularly in those cases where the minimum age of admittance for the latter is not too low. There should never be too many participants in any one course. A number varying from 25 to 40 appears to be the most effective. An added advantage of a comparatively small group is that it promotes closer ties between the participants, thus creating the possibility for a lasting feeling of solidarity to develop.

A special aspect of agricultural training for adult farmers is the fact that not only do they become more receptive to the advice of the agricultural extension service, but they are also much more willing than others to arrange for some form of agricultural training for their sons as well. This is reason enough in itself for drawing the adult farmer into special agricultural courses. Unfortunately, however, there are still too many developing countries where this important fact is not yet fully realized.

Opinions differ considerably as regards the actual content of the course. Some agricultural experts are in favour of what is known as *general agricultural training,* whereby the accent is placed on general agricultural knowledge such as the influence of the climate, various aspects of fertilization, the credit system, agricultural cooperatives and marketing procedures. The principle underlying general agricultural courses of this nature is to educate the farmers to think and act in a rational manner so that they are capable of making their own decisions as regards any improvements that may be required. This type of training is sometimes referred to as "passing on farming sense". It consists not only of imparting general agricultural knowledge, but also covers questions of a certain economic and social nature.

Contrasting with the above is *direct agricultural training,* which is also aimed at the rationalization of the individual farm, though by means of effecting improvements geared to local conditions. They must be offered the trainees "ready made", as it were. It will be clear that this approach must be based on complete familiarity with local farming practices and that the instructors must be fully informed – usually by means of time-consuming experiments – on every aspect of the improvements that might be introduced. This will require, as a rule, a detailed preliminary study and a lengthy period of research on the part of the agricultural extension service, carried out *within the context of a relatively restricted agricultural area.*

This time-consuming local research is not needed to the same extent for the general type of agricultural training. We have learned from experience, however, that direct agricultural training, larded with a certain amount of general information, is much more effective. This is not surprising in view of the general level of intellectual development in the regions concerned, which is definitely not such that "farming sense" can be injected more or less automatically. This situation may change when

rural development has reached the stage that all village schools can offer a formal primary course lasting 6 years or more.
It is of importance that the graduates of such courses be given the opportunity of attending short periodical refresher courses. It is even more important in view of the fact that agricultural changes are taking place at an ever-increasing rate.
To sum up, the following points should be borne in mind:

— Before starting a village farmers' course the agricultural extension service should not only be fully informed on the local socio-economic and agro-technical situation, but should also be able to offer a number of "ready made" improvements and innovations that relate directly to the region concerned and which preferably require little in the way of capital investment or extra labour.
— The content of the course should be to the point and largely directed toward effecting clearly discernible improvements that the trainees can carry out on their own farms without delay and with the maximum financial return. The basic premise here is that the finer points of rationalization are still beyond the farmer at this stage.
— Wherever possible, only persons who are farmers themselves, or the sons of farmers, should be admitted to the course. This measure helps to ensure that the improvements advocated can immediately be carried out.

What are the actual advantages of village farmers' courses?
(*1*) The requirements as regards equipment and personnel are modest in the extreme. Both the equipment and the space required can be provided by the village or primary school. It can be arranged, for instance, that the normal school lessons be given in the morning, and the agricultural course in the afternoon or evening. The school teachers who act as instructors will themselves have followed a special 1- or 2-year agricultural course given by trained officers of the agricultural extension service.
(*2*) Since the lessons are given only once or twice a week, they need not interfere with the normal day-to-day activities on the farm. A point of special importance here is that the young people are not removed from their own environment, with the concomitant risk of their becoming alienated from the village.
(*3*) The simple design of the courses implies that they will not require large sums of money, which means in turn that they can be organized on a large scale, even in those developing countries with a small national budget. *This possibility of large-scale organization is a prime requisite for the success of all rural agricultural training courses.*

4. Training courses for village agricultural instructors

Experience has shown that the success of village farmers' courses is dependent to a large extent on the instructor, in this case the village or primary school teacher. One particular system of training school teachers to become agricultrual instructors is described in the following.
Where there is a need for agricultural courses in a certain district, one or more training courses for instructors is organized. They consist of lessons given on one or two afternoons a week for a period of approximately 2 years. Only teachers in possession of land and a small farm are admitted to the course. The course is given in either the afternoons or the evenings so that the participants are able to

continue to perform their normal school duties, as is also the case later when they are conducting one or more village farmers' courses. The training courses are conducted by highly experienced officers of the agricultural extension service. For in addition to the more general subject matter, the village teacher also has to learn about local agriculture, the local type of farm, the improvements that tests have demonstrated to be feasible for local farms, etc. In short, he must acquire a thorough knowledge of all facts relating directly to local agriculture. The instructors' courses are therefore partly general and partly oriented towards specific local conditions.
It follows from the above that a village school teacher posted to another district should familiarize himself as soon as possible with the agricultural situation in the new area, in which task he will be assisted by the local agricultural extension officers. On completion of the instructors' course, teachers are awarded a diploma entitling them to receive a special allowance for their agricultural work. The actual amount they earn in this way depends on the number of classes they conduct.

5. The elementary agricultural school

One of the drawbacks to the agricultural training schools (Section 2) and the village farmers' courses (Section 3) is that they offer no means of bridging the age gap between the village or primary school and agricultural training. Attempts have been made to solve this problem by establishing a minimum age for admittance to agricultural courses. This solution not being regarded as ideal, the search for something more satisfactury has resulted, inter alia, in the establishment of 4-year elementary agricultural schools.
This system is in principle more or less analogous to that followed in the U.S.A. and The Netherlands in that extensive instruction is given on one or more days a week. It is based on the consideration that agricultural training should begin as soon as the pupils leave school. During the first year the boys attend classes on two days a week, and in the following three years, once a week. The average elementary agricultural school has some 30 of 40 pupils in each class, making a total of approximately 150 pupils in all. The classes can be conducted by one full-time agricultural instructor, who might be a former primary school teacher who has completed a special training course. The system of training school teachers to be agricultural instructors discussed in the foregoing (Section 4) could be used for this purpose as well. Moreover, the course could be divided into two stages, the first leading to an A diploma, and the second, more advanced stage to a B diploma. The first diploma could qualify the holder to teach in elementary agricultural schools and to conduct village farmers' courses, while the second could qualify him for the higher levels of rural agricultural teaching.
What, then, are the advantages of this type of school?
(*1*) The fact that the number of days per week on which tuition is given is kept to a minimum means that the students remain largely in their own rural environment and in the daily work surroundings of the farm.
(*2*) The duration of the course is comparatively long (four years), which has the merit of helping to bridge the difficult transitional period between leaving school and attaining adulthood. In addition, this increases the chance that the students will be in a position to set up their own farms on completion of the course, or at any rate shortly afterwards. If not, at least the ex-student will then be past the age of being regarded by the village elders as a mere child.

(*3*) The structure and organization of the elementary agricultural school is simple and appears to be inexpensive to run in proportion to its size. So from the financial point of view it would seem to be acceptable for developing countries. It should nevertheless be added that experience in Java (Indonesia) has indicated that the costs involved are still such as to give rise to doubts regarding the advisability of establishing schools of this sort on a large scale.

6. Continued assistance for graduates of the agricultural schools and village farmers' courses

The follow-up problem is one that is of extreme importance, closely related as it is to the question of the ultimate success of agricultural training. It was not long before it was realized that simply imparting agricultural knowledge was not enough in itself to ensure lasting good results. For graduates lacking real contact with the agricultural extension service, for instance, or with the agricultural instructor soon forgot a great deal of what they had learned, with the result that agricultural training proved to be a good deal less efficacious than had been hoped. Though the younger generation were more guilty in this respect than their elders, it was still evident that the latter were also in need of some form of after-care. Efforts were then made to discover the form which it could best take and the choice finally settled on the method of individual contact between ex-students and the agricultural instructor or the staff of the agricultural extension service, in this case in the person of the village level worker.

Once the village farmers' courses or agricultural schools have become really going concerns turning out a greater number of graduates each year, individual contact will of course no longer be possible. This development should be anticipated by encouraging persons completing the village course to set up their own organization, which body might be called an Agricultural Group or an Agricultural Association. The idea of individual contact would thus undergo a change in the sense that it would henceforth be switched to the executives of the various associations, who would discuss the advices received with the members, thus in turn giving rise to group discussions and collective deliberation and, often, to the collective acceptance of the measures recommended. Farmers' associations of this sort have proved to be one of the most successful and valuable channels of communication for the agricultural extension service as in Taiwan (ANON., 1960) and in Japan.

An added advantage accruing to the formation of associations of this type is that advice and information can be given on matters that can only be handled collectively. Examples are decisions regarding the most desirable assortment of products (copra, coffee, rubber, etc.), the purchase of fertilizers, insecticides, agricultural implements, etc. and the collective sale of each farm's surplus products.

The main difficulty is finding the persons capable of fulfilling an executive function in such associations. Though there are usually a few figures of the required stature, such as the village teacher, the village agricultural level worker, and one or two formal or informal leaders, the choice remains limited. A partial solution has been found by setting up special training courses for future association leaders, which courses are organized by certain government agencies.

The lack of potential leaders of the right calibre is also a decisive factor as regards the size of the associations. It is to be recommended that they be kept fairly small,

comprising, say, 30–40 members, which is the average number of participants in any one village farmers' course. It is also to be recommended that they be set up with clearly defined and, above all, fairly straightforward objectives, so that the members can grasp the way they work and follow it all with genuine interest. The proper leadership could bring about the transformation of the initially modest agricultural organizations into larger agricultural associations, which in turn could eventually expand into still larger organizations akin to the Western cooperatives. We know from experience that the main value of these organizations, apart from the material benefits they bestow, is that they provide a foundation for the development of individaul initiative and activity within the group and even within the entire village community.

This cycle consisting of *training courses for agricultural instructors, village farmers' courses* and the *agricultural groups or associations* arising naturally from them has proved to be one of the most effective systems of rural agricultural training yet attempted. It fulfils the conditions of (*a*) an uncomplicated structure, (*b*) the possibility of being based on the local agricultural situation, and (*c*) a small financial investment, so that large-scale expansion is possible.

7. Training institutes or centres for local leaders

It is a well-known fact that formal and informal local leaders (village headmen, village foremen, etc.) can form an important channel of communication between the agricultural extension service and the rural population (RAHUDKAR, 1960; SAIKA, 1963). As a rule it is no easy task to identify the really influential persons in a village community, since their moral authority over their fellow villagers is not always immediately apparent and, indeed, is sometimes extremely difficult to perceive. By enlisting their assistance it is possible to bring about an appreciable increase in the participation of the population. They often have the ability to stimulate the creative potential of the population, for these figures, who were mostly born and bred in the village, are in a better position than anyone else to understand the village way of life.

As chance would have it, however, the intellectual level of the local leaders or other prominent villagers is often insufficient to meet the demands of the more modern agrarian environment, for which reason some sort of supplementary schooling both as regards their general and their agricultural knowledge is strongly indicated. A great deal of attention has been given to the schooling of the local leader, particularly within the last ten years, as is evidenced by Trinidad's Extension Education Programme and Puerto Rico's Community Education Programme.

It will scarcely be necessary to add that the curricula of the various training centres for local leaders may vary from country to country and even from district to district, depending on the level of development of the population, the population distribution, the nature and situation of the native agriculture, etc. (HSIN PAO YANG, 1957).

It is not within the scope of this article to go into the numerous variations existing on the theme of training local leaders. I shall therefore confine myself to one example, one which relates to a training centre established in 1955 near Kepi, in the former Netherlands New Guinea. It is a type of training centre eminently suitable for thinly populated areas with severely limited means of communication between what are mostly small settlements. The communities in such regions usually practice a primi-

tive type of agriculture which is largely based on supplying their own needs. Shifting cultivation is still the principal method followed in most of these regions.
The training provided by the agricultural training centre at Kepi is centred on a form of rural education in the broadest sense of the word. In addition to direct agricultural training, which forms the bulk of the course, a great deal of attention is devoted to certain village crafts, hygiene, dietetics, local administration, etc. "Local administration" covers not only the task and function of actual district administration, but also includes the way in which various government services, such as the agricultural service, the educational service, the health service, etc., function at both local and regional levels. An important place is reserved for practical training, for which purpose a number of small farms and workshops are attached to the centre.
The course, which takes 1 year, caters for the entire nuclear family because it has fairly recently been realised that women and children play an important part in the agricultural process, particularly in very primitive areas. The removal of whole families from the community does not give rise to any special difficulties in this case, since the social system is based on close clan ties. This means that the rights and obligations of the families who leave for a time are assumed by the remaining members of the clan.
The families are accommodated at the training centre in simple dwellings. Agricultural work is carried out collectively, and domestic activities within the context of the family. A number of prominent families are selected from various villages every year to go to Kepi. As a general rule some five families are selected at a itme from each village in the hope that on their return they will form a number of solid cores giving one another encouragement in their efforts to display a more progressive attitude for the benefit of those around them and, particularly, the oncoming generation. It is hoped that this approach will exert a lasting influence on the local culture patterns. Here, too, considerable value is attached to adequate after-care.
It goes without saying that the agricultural training is of a direct, practical nature, being attuned to the local situation and what are regarded as its essential needs. This being so, it is largely directed towards the cultivation of perennial cash crops and towards the introduction of high-quality food crops as a means of improving the traditional diet.

8. Postscript

The various systems of rural agricultural training discussed in this article are all systems that may be of value to developing countries. There will be no need to add that an infinite number of variations is possible on each basic theme, though it should always be borne in mind that both structure and content of rural agricultural training and of the requisite institutions should be based on:
— The general level of development of the rural population.
— The regional or local agricultural situation.
— Both the need for and the chances of effecting technical and economic improvements in the local type of farm or the local agricultural system.

Taking the now generally-held opinion that the young people in developing countries should be provided with at least a primary education as our point of departure, it is not difficult to envisage a complete regional or even national organization for rural agricultural training. Of course thoughts of this kind should be based on the percentage of the total population that is directly concerned with agriculture and

should also take into account an eventual gradual decrease in the agrarian working population in connection with increasing industrialization.

Another point worthy of mention is the following. We have already dealt cursorily with the subject of combining normal primary education with rural agricultural training as regards the actual curriculum. This question has been closely studied in many countries, particularly in the former English colonies and the former Netherlands East-Indies. One of the measures instituted in the latter was the introduction of agricultural science as a subject in a number of teachers' training colleges. The subject, taught by higher-grade officers of the agricultural extension service, consisted largely of general agriculture. The intention was that later, when they had become teachers, the students should use agriculture as a background to the lessons they would be giving in village and primary schools, using agricultural allusions and examples wherever possible. It was even thought that they would be able to improvise well enough to take their cue, as it were, from the type of agriculture practised locally. It was expected that in this way the villagers would become familiar from their school years onward with the typical characteristics of local agriculture. The idea was that in regions specializing in the cultivation of rice, for instance, reading and arithmetic lessons could be centred on such aspects of rice-growing as preparing the paddies, planting, caring for the shoots, harvesting, the size of the yield, the financial return, etc. What this teaching method in fact amounted to was that both the school curricula and teaching techniques were adapted to the characteristics of each individual region, i.e. geographical areas where a specific agricultural system or type of farm predominated. It was what is known as "project education", that is, a teaching system directed towards the "centres of interest", pointing up and illustrating the relations between the many component factors influencing life.

Unfortunately, the authorities concerned grossly overestimated the capacities of the primary school teachers, whose talent for improvisation proved to be much less than had been assumed. And yet the ability to improvise was an essential part of the whole scheme, since it was of course out of the question to design a separate set of books, posters, etc. for each specific branch of agriculture. So this attempt to teach primary school children the characteristics of their local or regional agriculture was an immense disappointment for all concerned.

The subject also received a great deal of attention in the former English colonies, where as early as 1943 stress was laid on the importance of the vocational element in both primary and secondary schools. As was also the case in Indonesia, it was necessary for teachers to attend special training courses. This method of combining formal education with elementary vocational training cannot, however, be said to have been a great success in any of the colonies or former colonies where it was introduced. It may be doubted whether an educational system of this sort can be of much practical value, with the possible exception of the financial aspects — at any rate for young school children. For the latter are in daily contact with local farming elements on their parents' farms.

It is in any case a notable fact that educational ideas in the broadest sense have undergone a radical change, particularly since the countries concerned have gained their independence. They are of the opinion that the educational systems in use up till now, which usually date from the colonial era, are much too Western both as regards content and design (BUCHER, 1962; DUMONT, 1962; FURNIVALL, 1956), and wish to revise the whole formal educational system so that it is directed more towards *bringing up* young people to be rational, right-thinking human beings. This implies

that more attention will have to be given to the non-material side of the question, and a great deal less to the material aspects of the culture. It might perhaps be expressed as follows: what the school now gives the pupil is knowledge; what it should give him is skill.

The essential difference between old and new educational concepts is that the latter are directed towards all spheres of life (including, for instance, religion). The individual thus learns something of the many aspects of life with which he may later be confronted. This new approach lies at the root of what is variously described as "fundamental education", "basic education", "mass education", "social education", etc.

It is clear that if these new ideas are to bear fruit, the teachers or educators will have to be of a quality vastly superior to that of their predecessors. And it is to be expected that the training of a competent body of teachers will be a matter of the greatest difficulty. The fact that the training of teachers frequently forms an almost insuperable barrier for an expanding educational service is all too often overlooked.

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