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THE ORGANISATION OF  
TECHNICAL INSTRUCTION  
FOR AGRICULTURISTS

by

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# THE ORGANISATION OF TECHNICAL INSTRUCTION FOR AGRICULTURISTS

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## INTRODUCTION

The present memorandum is not intended as a monograph on the existing organisation of agricultural education in the different countries. Such a work would be superfluous, as that question has been dealt with in detail in the volumes published by the International Labour Office (*Vocational Education in Agriculture*, Geneva, 1929) and by the International Bureau of Education (*L'Organisation de l'Enseignement rural*, Geneva, 1936).

In deference to the Preparatory Commission's wishes, however, an attempt has been made to condense in this memorandum the results of lengthy experience in regard to the part which technical training can play as a factor in raising the standard of peasant life, stress being laid, not so much on what has been done, as on what can still be done to enable such training to exercise to the full its potential influence in promoting the material well-being and improving the intellectual and moral standards of the rural classes.

The memorandum is accordingly divided into two parts—namely :

I. *The influence which the results achieved, or still to be achieved, in the sphere of technical agricultural education exercise, or may exercise, on the raising of the standard of living of the rural population.*

II. *On what bases could technical agricultural education be organised to meet the needs of agriculturists and to contribute effectively to the raising of the standard of living of the agricultural population ?*

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I. THE INFLUENCE WHICH THE RESULTS ACHIEVED, OR STILL TO BE ACHIEVED, IN THE SPHERE OF TECHNICAL AGRICULTURAL EDUCATION EXERCISE, OR MAY EXERCISE, ON THE RAISING OF THE STANDARD OF LIVING OF THE RURAL POPULATION

The raising of the standard of living of the rural population can only be achieved by co-ordinating the efforts made in the various fields of rural life.

If it is to be useful, effective and lasting, such an improvement in the standard of living must extend to the individual, the family and society, and be physical, intellectual and moral in its scope.

Action in each of these fields must not be isolated, but must be influenced by conditions in the other fields.

The peasant's personality can be fully developed only if his education covers all the various aspects of his existence.

The direct and immediate aim of technical agricultural education is to increase agricultural production and to improve material conditions ; its indirect aim is to improve conditions in other spheres of rural life.

In agricultural schools and schools of agricultural domestic economy which have a complete programme, the curriculum includes religion, ethics, civics, education for family life, agricultural sociology, etc. It is therefore not purely vocational, but aims also at developing the various qualities and faculties of the children and preparing them for their duties in later life.

As will be seen farther on, however, after receiving an elementary education, the great majority of agriculturists are, or have to be, content with attending more restricted courses, dealing almost exclusively with vocational matters.

The contribution of technical agricultural education to the general process of raising the standard of living of the rural population can therefore be only partial and one-sided.

This was perfectly understood by the promoters of the European Conference on Rural Life when they included in its programme the various questions which have, or may have, a beneficial influence in forwarding the aims of the Conference.

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To show as clearly as possible how the results achieved in the field of technical agricultural education have influenced,

and may influence, the raising of the standard of living of agriculturists, it will be enough to outline agricultural developments in a number of Western European countries, particularly Belgium, during the past sixty years.

Up to about 1880-1885, the agriculturist was everywhere very isolated, and had very little education, either general or technical. His work was hard and exacting, and the yield of his tillage and live-stock small; the market was restricted by transport difficulties; sale prices were low, and profits very small or even non-existent if allowance is made for the fact that members of the family received no return for their labour except their keep.

Under such conditions, the agriculturist was obliged to lead an extremely simple and frugal life in order to provide for his family and pay his debts to his landlord.

His *diet* consisted chiefly of the less easily sold farm produce, the best produce being sent to market.

His *dwelling* was usually small, built of cheap materials (cobwork, thatch, etc.), and adjoined the stables.

His *clothing* was modest and cheap.

*Hygiene* was neglected in every way.

*Leisure, recreation* (except for local festivities), *reading*, etc., were very rare.

Generally speaking, the strictest economy prevailed throughout the year. In short, the life of the agriculturist sixty years ago was, on the whole, rather wretched from a material point of view.

The agricultural depression resulting from the decline in the sale price of cereals (usually the backbone of agricultural production) aggravated the situation by ruining a large number of agriculturists who had bought their farms at comparatively high prices during the prosperous years between 1870 and 1880, and were unable to pay interest on their mortgages.

To meet this disastrous situation, the authorities made it their business to come to the rescue of agriculture. They organised and developed every type and standard of agricultural instruction. They founded institutions for agricultural analysis, research and experiment. They encouraged the formation of associations for the protection of the interests of agriculturists, the purchase of raw materials, the manufacture and sale of products, credit and insurance against agricultural risks (mortality among live-stock, hail, etc.).

The results of these efforts gradually became noticeable. The yield of tillage and live-stock increased, profits reappeared, and, little by little, conditions again became stable and to some extent prosperous.

The rising generation began to attend elementary and agricultural schools and agricultural lectures and meetings

more regularly. Newspapers and agricultural books were more widely read; agricultural associations increased in numbers and activity; and agriculturists gradually began to grasp their own importance as a factor in the general economic system of their country.

Those who, like the writer, were well acquainted with the period 1895-1914, were able to see what real progress was achieved in the life of the peasants (as regards education, diet, housing, clothing, hygiene, reading, recreation, etc.) as the result of the improvement in their financial position.

No one who knew that period will deny that technical agricultural education played a large part in this progress.

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After the war, agriculturists enjoyed a few more years of prosperity, until a new depression, destined to be more severe than the previous one, again overtook international agriculture.

During the period of agricultural prosperity which lasted until 1928, it was possible to make interesting observations illustrating the influence of the agriculturist's resources on his standard of life.

Here, again, there was marked progress in the spread of education, attendance at general and technical schools, popular nutrition, clothing, housing, hygiene, reading, comfort, recreation, travel, etc.

It was even thought by some that abundance of resources was a fairly common cause of extravagance in such matters as clothing, housing, amusements, travel, etc. But the advent and growth of the depression caused at least a partial regression (which still prevails) in nearly all those fields, and which was usually rendered necessary by the drop in the peasant's income.

These facts and observations lead to a general conclusion, which can be shown to be correct in nearly every country — namely, that, as a rule, the agriculturist is an unassuming, honest, steady worker who knows how to adapt himself to the circumstances and risks of his occupation and is anxious to meet his liabilities and to be regarded as a man of integrity. When his income decreases, he cuts down expenses, beginning with those which are not strictly essential.

That is why, if the standard of living of the peasantry is to be raised, it is indispensable to ensure that agricultural work brings in a modest but regular return. If this aim is not achieved, all other measures or advice will be ineffective.

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II. ON WHAT BASES COULD TECHNICAL AGRICULTURAL EDUCATION BE ORGANISED TO MEET THE NEEDS OF AGRICULTURISTS AND TO CONTRIBUTE EFFECTIVELY TO THE RAISING OF THE STANDARD OF LIVING OF THE AGRICULTURAL POPULATION.

A few preliminary observations are necessary.

1. It would appear to be very difficult, if not impossible, in answering this question, to take into account the special conditions that may exist in different European countries.

The following remarks will therefore be fairly general in scope, though it will be possible to adapt them to some extent to most special cases.

When peculiar or difficult circumstances arise, there is no doubt that the national authorities and organisers will find the best methods and the most effective means of enabling all those concerned to benefit from that form of agricultural education which is best suited to their conditions of life.

2. In order to clear up any misunderstanding, the expressions "rural education" and "agricultural education", which differ in their meaning, should be defined.

*Rural education* covers all children residing in rural districts, whether their parents are agriculturists or not.

*Agricultural education* is specially concerned with the training required for agriculture as an occupation, and therefore applies exclusively to the children of agriculturists, although agricultural schools, sections and courses may be (and often are) attended by the children of non-agriculturists, who have usually proved unsuitable in other schools. Experience shows, however, that such children, who have not been born and bred in agricultural homes, very seldom become, and still more, seldom remain, agriculturists with the character, virtues, tastes and outlook of the true farmer.

This view may be summarised by saying that, *with very rare exceptions, the farmer is born, not made.*

3. Agricultural education must, in our opinion, extend, or at any rate endeavour to extend, to all those who engage, or will later engage, in agricultural work, whether children, adolescents or adults of either sex.

The problem of the organisation of such education will therefore be considered successively in its various stages :

- A. Agricultural training in elementary schools ;
- B. Agricultural training for adolescents and adults ;
- C. Agricultural training for older men ;
- D. Agricultural training for girls and women.

Agricultural training for boys and men will first be discussed, and a separate chapter will deal with agricultural domestic training for girls and women.

#### A. AGRICULTURAL TRAINING IN ELEMENTARY SCHOOLS

For the vast majority of children, elementary education is the only form of schooling available, as they have to begin work at the age of 12, 13 or, at the latest, 14.

Elementary schools should, in principle, give the children a ground-work of education not directed towards any specialised object. They should aim at the harmonious development of the children's abilities, natural inclinations, tastes and preferences, with the object of enabling them to select, under the best possible conditions, the type of career they wish later to pursue.

Although this principle appears sound and likely to secure general approval, it is not one that can be accepted in the present case. In the following pages, a different conception of the structure and working of rural elementary schools is given, with an indication of the main arguments on which it is based.

*It appears illogical to attach an identical degree of importance to each of the different types of economic activity found in one country, without reference to their intrinsic value, their relative importance and the position they occupy with regard to the whole. In all these respects, agriculture unquestionably stands in such a prominent position as imperatively to demand an attitude favourable enough to preserve its existence and vigour, and to ensure that public opinion realises its value.*

Although the agriculturist enjoys many real advantages from the standpoints of individual freedom, health, diet, peaceful living conditions, personal initiative and relationship to his environment, *many people still look upon agriculture as a form of activity reserved for modest, unambitious workers without much learning or influence.*

That attitude is a survival from times when agricultural labour was chiefly manual, and was performed solely by serfs and humble, ignorant workers without any influence in the affairs

of the community. To-day it survives in the practice, still common in many peasant families, of keeping on the land only those children who do not progress in their studies, while the more successful are sent into the liberal professions or administrative, commercial or industrial careers.

The same attitude can be detected in the elementary schools, where teachers pick out the best pupils for non-agricultural careers, keeping back those less gifted for work on the land.<sup>1</sup>

The school-teacher's influence in this respect is very great ; to ensure that it is exerted in the interests of agriculture, the teacher himself must be made to realise the important part played by agriculture in the life of the country.

But he will never become convinced of this unless his attention is drawn to the question in an insistent manner ; and the conclusion imposes itself that teachers in rural schools must be given a special form of training.

#### *1. Training of Rural School-teachers.*

In most countries, at the present time, the training of elementary-school teachers is conducted simultaneously and on the same lines for both town and country schools ; curricula, lectures, practical courses and other work are identical, whether the student intends to teach in a town or in a rural area.

Yet the two environments are entirely different ; city children and country children are brought up with different attitudes, tastes, bent and ambitions, and their attention is occupied by different phenomena and objects.

If he is to be understood by his pupils, the teacher must select his models, examples and subjects from spheres with which they are well acquainted. But, if he is not country-born and is ignorant of the life, activities, advantages, needs and anxieties of the countryside, it will be difficult for him to keep in touch with his class ; above all, he will fail to impart a love of rural life and the native soil to the children under his care, since he will have no understanding of their peaceful and stable qualities, but, on the contrary, will end by suffering from his enforced solitude.

If it is genuinely desired to foster and encourage a country mentality and a regard for country employments, it will be necessary to appoint, as teachers in rural schools, only persons who have been brought up in the country and possess a full understanding of and regard for the essential and valuable forms of agricultural activity. A teacher foreign to the life of the countryside will be chiefly impressed by its less agreeable or

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<sup>1</sup> In some cases, of course, all the children in one family cannot find employment on the same holding, and some must necessarily seek employment elsewhere.

stimulating aspects : the low level of profits and wages ; the length of the working-day ; the heavy effort required throughout the year, especially in the case of live-stock ; the lack of holidays and amusements ; the boredom due to bad weather ; the long winter evenings ; the distances to be covered over dark, muddy and ill-metalled roads ; the unhygienic character of stables and byres ; the handling of manure ; the soiled condition of clothes ; and so forth.

If a teacher, although obsessed with those aspects of country life, refrains from imparting his obsession to his pupils, not much harm may be done ; but when, as is more frequent, " out of the abundance of the heart the mouth speaketh ", the result may well be disastrous to the future life of his pupils on the land.

Two conclusions appear to be justified in the light of what has been said above :

(a) As far as possible, only teachers originating from country districts should be appointed to rural schools ;

(b) All teachers intended for posts in rural schools should be given a special training, distinct from that given to those proceeding to urban centres and adapted to their special tasks ; in other words, training in elementary teachers' colleges should, at least in its later stages, be divided into two sections, one for country and one for town teachers.

Since, however, appointment to a country school is in certain respects less advantageous, and therefore less sought after, than appointment to an urban school—which offers not only the amenities of city life but generally a higher stipend—the category of those being trained for work in rural schools may prove deficient in numbers. It will then be necessary to attract students by offering them special advantages, such as additional fees for agricultural courses, to an extent sufficient to make their total salary at least equal to that earned by teachers in towns.

## 2. *Competitions in Agricultural Subjects between Rural Elementary Schools.*

Periodical competitions in agricultural subjects, with diplomas and awards to schools and teachers in whom the examining board (composed of a school inspector and an expert in agronomy) finds evidence of merit and of the successful inculcation of agricultural knowledge, would do much to make the acquisition of such knowledge more attractive and to stimulate teachers in rural elementary schools.

Such competitions were held for many years in Belgium ; they proved highly successful and contributed greatly to the early training of future agriculturists. The writer is well placed

to judge of their value, having acted as member of a board of this character for some ten years.

The practice was, however, discontinued after the war, partly for financial reasons and partly because the competitions—organised by the Ministry of Education—did not give training in agricultural subjects the prominence it ought to have in the curriculum of rural elementary schools.

\* \* \*

In large and relatively underpopulated countries, where every village does not yet possess its own fully organised elementary school, but where elementary instruction of a general character is available, the teacher or instructor in charge might with advantage receive some training in agricultural subjects, the rudiments of which he could pass on to his pupils.

Such training could readily be provided by means of special courses open to the more educated and able recruits from each village during their military service. Regular attendance and diligence could be secured by means of a concluding examination leading to the grant of a certificate the possession of which would enable candidates to obtain salaried posts as rural instructors.

#### B. AGRICULTURAL TRAINING FOR ADOLESCENTS AND ADULTS

This type of training is intended for future agriculturists who have completed their primary education ; it can take one or other of the following forms :

(a) *Intermediate agricultural training*, intended for boys from 12 to 16 years of age who have finished their elementary schooling, and lasting one, two, or three years.—The programme includes a continuation of general education, the principles of natural science as applied to agriculture, and courses in agricultural science. A working-farm is generally attached to schools of practical agriculture, farm schools, regional agricultural colleges, or intermediate agricultural training establishments, to enable the pupils to follow practical farming operations and take part in them as far as time permits.

This form of training must be entirely practical and should aim at enabling pupils to carry out themselves, on their return to the family undertaking, practical experiments in cultivation and stockbreeding. To be fully effective, it must be placed in the hands of keen, competent, scientifically and practically qualified teachers supplied with all the necessary equipment.

The school authorities must keep a close watch on the observance of the general and special instructions relating to each

course. The duties of inspection should be assigned to agricultural experts familiar with the teaching of agricultural subjects, in order to make sure that the programme is efficiently carried out and that modern teaching methods, etc., are applied. Frequent *viva voce* examinations, regular written-tests and annual examinations should be arranged, and successful pupils should, at the end of the course, obtain a certificate or diploma as evidence of their diligence and knowledge.

(b) *Agricultural training for boys returning to their homes on completing their elementary schooling.*

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### i. *Continuation Agricultural Training for Youths.*

In this type of training, regard must be paid to the amount of leisure available to workers on the land. Lessons should be given at suitable times on the weekly rest-day, or in the evening when farm work is over, or again on one or more days or half-days of the week during the slack season.

The programme should be adapted to the special characteristics of local agriculture, and should be of a definitely practical nature. The teacher should endeavour to attract the interest of the pupils by inviting questions and by studying and discussing practical problems submitted spontaneously by the pupils or their parents.

Practical demonstrations of cultivation or stock-feeding can with advantage be organised on a small scale at the farm of some willing parent. The pupils should also be given books, notes and memoranda, carefully prepared by their teachers, which they can consult when occasion arises.

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Courses of this type can cover several years for each batch of pupils, since the agricultural knowledge must be imparted slowly, while additions to general knowledge will be useful in supplementing their intellectual equipment.

Finally, the teacher can ask his class, who will still have retained something of their school habits, to carry out individual tasks illustrating what they have been taught.

The teachers giving technical instruction should possess agricultural diplomas, and those giving general instruction be qualified as elementary-school masters. But the whole teaching can also be given by holders of diplomas awarded by colleges specialising in training candidates for rural appointments, or by holders of general diplomas who also hold certificates of attendance at courses specially organised for the agricultural training of continuation-school teachers.

## 2. *Continuation Agricultural Training for Youths and Adults.*

This type of training should be made available wherever a sufficient number of adult pupils can be brought together. The programme can be the same as that described above for the agricultural training of boys leaving elementary schools; but less time, or none at all, need be devoted to general education.

The character of the agricultural teaching must be as practical as possible, as the pupils will already be daily immersed in agricultural activities.

The teachers should be experts versed both in the scientific and in the practical aspect of their work, for success will depend upon their skill and the practical value of their teaching.

## 3. *Special Courses in Agricultural Mechanics, Electricity, etc.*

In agricultural districts where electricity is available and the use of agricultural machines, tractors, etc., is widespread, it is useful, and indeed essential, to offer young agriculturists some training in agricultural mechanics and in the rudiments of practical electricity.

Such training can generally be given during the slack season, on one or more days or half-days every week throughout the winter, or even for two consecutive winters.

In addition to general instruction in mechanics, electricity, the use of engines, etc., the programme should include instruction in assembling, taking down, adjusting and running agricultural machinery, tractors and electrical equipment.

Such training will be of the greatest value in country districts, where specialised workers are seldom available. Young countrymen are, as a rule, keenly interested, and follow the courses regularly and attentively.

This form of training should end with theoretical and practical examinations and the grant of certificates to successful candidates. The teachers should have special knowledge of agricultural mechanics, engines and tractors and electricity, and should be provided with the necessary equipment for practical instruction.

## C. AGRICULTURAL TRAINING FOR OLDER MEN

After a certain age, agriculturists are somewhat reluctant to return to school and attend regular classes. At the same time, they like to keep abreast of developments in their special sphere. This desire can be satisfied in the following ways :

(a) *Membership of one or more agricultural associations and attendance at meetings at which information, talks and lectures are given.*

(b) *Regular attention to newspapers, notices and publications issued by agricultural bodies.*

(c) *Consultation, oral or by correspondence, of technical newspapers and organisations maintained by public authorities or agricultural associations (e.g., departments of agronomy, veterinary science, horticulture, rural household management, dairying, plant diseases, rural planning, etc.).*

(d) *Cinema performances or lantern lectures dealing with agricultural subjects and showing farmers what is being done elsewhere, what are the principal agricultural products of other regions and the best processes employed by other agricultural producers.*

(e) *Regular reception of agricultural broadcasts, which are of recognised value, and by means of which agriculturists can be readily and quickly kept informed of current agricultural developments. Such broadcasts are now given in most countries, as is shown in the interesting reports on rural broadcasting submitted to the meetings of the International Centre of Rural Broadcasting (C.I.R.R.) held at The Hague (1936), Berlin (1937) and Prague (1938).*

Farmers can listen individually to these broadcasts if they own a receiving set; but, in a number of countries, such as Italy, receivers are installed in the village square for the use of the public at stated times. The broadcasts are followed by discussions and explanations of the information just received.

(f) *Correspondence courses in agriculture* have recently been organised by various agricultural associations. The experts in charge draw up standard lessons which are sent by post to all the pupils on the register; they correct the latter's replies to questions bearing on the subject-matter of each lesson; they bring the pupils together at regular intervals to complete their technical training and knowledge; and they hold examinations for the benefit of pupils who wish to obtain certificates. This form of training is particularly successful during the slack season and among the younger men in remote and inaccessible districts. But its value depends entirely upon the skill and persistence of the teachers, especially as regards the selection and preparation of lessons, the correcting of the pupils' work and the punctual exchange of the various documents.

(g) A last source of information, available both to young farmers and to their elders, is to be found in *collections of books on agricultural subjects* provided by the public authorities in the form of fixed or travelling agricultural lending libraries. This method deserves to be employed more fully, as it provides the younger part of the community especially with an interesting and valuable means of employing leisure hours.

These agricultural libraries should include a stock of books within the reach of readers possessing only an elementary standard of education; they should also be regularly supplied with new publications describing the latest advances in the sphere of agriculture. At the same time, in order not to become too cumbersome, these libraries should, as far as possible, be adapted to local conditions and aim chiefly at keeping subscribers informed on those questions which are of more immediate concern to them.

#### D. HIGHER AGRICULTURAL TRAINING FOR BOYS

Most European countries have now organised a higher grade in agricultural training.<sup>1</sup>

Higher schools of agriculture have been opened with the object of preparing and training:

(a) Men capable of holding leading positions in the application of the most recent scientific and technical discoveries to agriculture and forestry;

(b) Future landowners who wish to fit themselves to manage their estates in the best possible manner;

(c) Teachers and technicians fitted to teach and popularise agricultural science;

(d) Officials and employees of public or private agricultural and forestry departments;

(e) Scientists and laboratory and research workers dealing with all questions related to agriculture and its specialised branches;

(f) Civil engineers competent to direct the various types of rural public works, certain agricultural industries and the analysis and research laboratories attached thereto.

Institutes of this type generally provide training lasting three, four or five years. The first year or two years are entirely, or almost entirely, devoted to natural science and mathematics, other branches of learning being left to a later stage.

All these institutions have experimental and demonstration farms and research laboratories under the direction of the teachers in charge of training.

Owing to the increasingly rapid development of scientific and technical knowledge, the whole of the students' time is taken up with lectures, various forms of laboratory work,

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<sup>1</sup> See *Agricultural Education in the World: Europe*; Vols. I and II; published by the International Institute of Agriculture, Rome, 1935/36.

drawing, surveying practice, excursions and visits of inspection to farms, agricultural industries and forests, competitions, agricultural exhibitions, rural public works, etc.

Agricultural work itself has, owing to lack of time, little or no share in the activities of students during the years they spend at an institute of agronomy.

In most countries, these institutes are little frequented by farmers' sons; most of the students are the sons of officials, tradesmen, industrialists, landowners, etc., who seek posts as officials in agricultural or forestry services as teachers of agriculture, agricultural or industrial chemists, estate managers or agents, etc.

The few farmers' sons to be found at such schools are generally intending to abandon practical agriculture and to obtain a post such as those mentioned above and to obtain a higher diploma for that purpose.

Higher institutes of agronomy have without doubt rendered the greatest service to agriculture by training teachers, technicians, agricultural and forestry officials, research-workers, chemists, agricultural economists, founders or administrators of agricultural associations, etc.—in a word, all those who take a prominent place in the scientific and economic spheres of agriculture. But these institutes do not always seem to have fulfilled their founders' expectations as regards the training of practical heads of agricultural undertakings.

Especially in recent years, the reluctance of farmers' sons to enter institutes of this type appears to have increased to such an extent that at most such establishments the number of such students definitely intending to return to the family farm has become a negligible proportion of the total.

Some higher training schools have compiled statistics on the subject. It would be of great value if this practice became general, as the findings just indicated would probably be confirmed.

There is, moreover, little hope that students coming from other than agricultural circles will take up practical agricultural work, and this for a reason already indicated—namely, that agriculturists are born, not made.

The reasons for the neglect of higher institutes of agronomy by farmers' sons, who formerly represented a fairly high proportion of the pupils, are these :

(1) The shortage of agricultural labour often seems to be a determining factor in deterring the younger members of the family from entering such schools.

(2) The agricultural depression, which has now lasted more than ten years, has reduced farmers' resources and so made it impossible for them to meet the expense of lengthy and costly studies, which, moreover, only enable holders of

diplomas to aspire to relatively minor posts to which the public attaches little regard.

(3) The fact that higher schools of agriculture are generally considered as entirely theoretical is hardly likely to induce practical farmers to send their sons there.

(4) The increasing severity of the conditions of admission to such institutions discourages many candidates who are farmers' sons. In the place of the former entrance examination, which allowed industrious pupils to gain admission earlier, they now require a *certificat d'études moyennes supérieures complètes* (granted by a *lycée*, *gymnase*, college, *athénée* or other similar institution), and many potentially valuable recruits are thereby debarred from seeking admission.

(5) The curriculum accords exaggerated importance to the more difficult subjects, which are of doubtful value to a practical farmer (*e.g.*, higher mathematics, quantitative analytical chemistry, boilers, motors, electricity, hydraulics, etc.); many boys, especially those weak in mathematics, are deterred for this reason.

(6) The duration of the higher agronomic training, which was formerly three years, has now been increased to four and even five. This lengthening of time, added to the longer period imposed by the change in the conditions of admission, has done much to keep farmers' sons away.

If it is now desired once again to attract farmers' sons to the higher study of agronomics—an aim of undoubted value to agricultural progress and one which would raise the standing of agriculture and of workers on the land in their own eyes and in those of the public—certain changes in the present conditions are imperative. They may be summarised as follows :

(1) An improvement in the material conditions of agriculturists is essential, to enable them to meet the heavy cost of higher agricultural studies.

(2) The institutions concerned should devote more and more time to practical experiments and research of direct concern to agriculturists; in this way, the latter would have more confidence in the value of such institutes and would be more ready to send their sons to them.

(3) Admission to agricultural training institutes should be granted, not only to holders of the *certificat d'études moyennes supérieures*, but to any boy passing an entrance examination showing that he has sufficient knowledge to benefit by higher training in agriculture.

(4) The curricula should be revised with a view to eliminating all study courses which are not clearly of value to practical workers.

(5) The actual period of agricultural study should be brought back to three years, at the end of which students passing their examinations would obtain a diploma of some standing in the eyes of the public.

## E. AGRICULTURAL TRAINING FOR GIRLS AND WOMEN

### I. *Training in Rural Household Management.*

This form of training is for girls and women in country districts, and particularly for those belonging to the agricultural community.

In most countries, the rôle of women in rural households and farms is arduous, complex and of the highest importance. They have not only to manage the household (meals, care of clothing, linen, furniture, etc.), but to do indoor farm work, such as the feeding and milking of cattle, the care of poultry, the dairy, the vegetable garden, etc. All this is additional to their duties as wives and mothers, including the upbringing of their children.

A woman must have been carefully prepared to carry out efficiently such a heavy, varied and essential task ; and a well-adapted form of training can alone achieve this result. Carefully organised training in rural household management offers the most suitable means of preparing women for their duties. It should include, in addition to such continuation of general education as may be thought necessary, some grounding in :

- The preparation of food (cooking, preserving, etc.) ;
- The upkeep of the house and its contents (furniture, linen, clothing, etc.) ;
- Sewing, cutting-out and making-up clothes ;
- Hygiene, care of the sick, welfare and education of children ;
- Dairy management (handling of milk, butter-making, etc.) ;
- Gardening ;
- The care of poultry, cows, pigs, etc. ;
- Current law ;
- Moral principles, etc.

Each of these subjects is of manifest importance ; familiarity with them will enable women to deal competently with a variety of situations and to overcome the innumerable difficulties they will encounter in the course of years.

Knowledge of this type is already acquired empirically, though incompletely and inaccurately, by the majority of mothers and women in charge of rural and farm households. A higher standard in these respects would undoubtedly confer immense benefits and bring about rapid progress in rural communities—morally, socially, intellectually, materially and in every other way.

## 2. *Organisation of Rural Household Training.*

To be fully effective, such training must be available to every category of the female agricultural population.

It must therefore aim at including :

(a) Pupils in rural elementary schools, by means of additional courses given at school ;

(b) Girls who have completed their elementary education, through the agency of household training schools and branches ;

(c) All older girls and women already engaged in domestic work on farms ;

(d) Finally, teachers competent to take charge of these various forms of training must be secured by means of special training establishments.

### (a) *Household Training for Pupils in Rural Elementary Schools.*

The principles of rural household management should, as far as possible, permeate the whole education of girls in elementary schools, while their general education should aim at the well-known object of preparing pupils for life itself.

Examples, comparisons, comments and practical information should always be selected from those spheres that are entirely familiar to the children : the family, the home, the household, the garden and the agricultural features with which they are surrounded.

Lessons in sewing, knitting and the care of clothes, linen and furniture are already included in the programmes of household management taught in the majority of rural schools.

From the fourth, fifth or sixth year of elementary schooling, according to circumstances and local conditions, there should be added further lessons and demonstrations relating both to household management and to specifically agricultural subjects. Among the first, cookery and practical instruction in laundering, ironing, cleaning, dressmaking, etc., should be included, while, among the second, a place should be given to practical gardening and elementary instruction in dairy-work and the care of cattle,

pigs, etc. Theoretical instruction of this type should be supplemented by the showing of lantern-slides, or, better still, by visits to up-to-date farms in full activity.

Briefly put, the object should be to convince pupils that domestic and agricultural activities are not, as is too commonly thought, mere crude manual tasks which anybody can perform without any preparation. The view must prevail that, to ensure the intelligent performance of these tasks and the best results, it is essential to possess some technical and scientific knowledge, even if elementary in nature, permitting an understanding of the various phenomena, their effects and the conditions which govern their changes.

Knowledge of this type will raise the status of household and agricultural activity in the eyes of the children—who are, of course, the parents of to-morrow ; they will thus be encouraged to notice what happens around them, to understand it better and to be more successful in their activities.

In this manner, rural household training for girls will pave the way for the more professional type of training in domestic economy which pupils can obtain later, either in intermediate rural household management schools and branches, or by means of temporary schools and courses of lectures on domestic and agricultural science.

#### *(b) Post-primary Training in Rural Household Management.*

This type of training is intended for girls who have completed their elementary education. It lasts for one, two or three years.

In addition to continuation courses in general subjects, the programme includes those elements of natural science (chemistry, physics, botany and zoology) which are required for an understanding of the lectures in domestic science and agricultural subjects. The degree of detail will depend upon the length of the course.

A large part of the time-table should be allotted to demonstrations and practical exercises, these being a necessary complement of theoretical instruction. As a rule, practical work occupies approximately half of the total hours of study. All practical exercises should be carried out by the pupils under the supervision of the teachers, after a preliminary demonstration performed with explanations by the latter.

To-day, practical demonstrations are, as far as possible, given with the active participation of the pupils, each of whom has the necessary equipment to carry out the experiments previously demonstrated by the teacher. This method has given excellent and quick results as regards the dexterity of the pupils. In addition to current tests of proficiency, all pupils undergo an examination at the close of the year on the subjects taught

during the year ; final examinations are held at the end of the course.

(c) *Training in Rural Household Management for Girls and Women engaged in Agricultural Work.*

In this case, the majority of the pupils have very little leisure, and can only leave their households for a few hours at a time. The following types of training can, however, be organised:

(1) *Single lectures, or series of lectures*, with or without practical demonstrations, lantern-slides and cinema films, given at the times best suited to the members of the audience ;

(2) *Temporary theoretical and practical courses*, lasting a week, a fortnight, a month or even longer, organised in villages for the benefit of women and girls regularly engaged in household or farm work ;

(3) *Regular broadcasts* ;

(4) *Correspondence courses* organised on the same lines as those described above for the agricultural training of men ;

(5) *Newspapers and periodicals* specialising in subjects of interest to country-women.

Very satisfactory results have been obtained in several countries where rural household instruction for women has been thoroughly organised, with due regard to the needs of those concerned. Meetings are well attended and stimulating in character, and results have been particularly satisfactory from the standpoint of raising the moral, social and intellectual level of women in country districts.

(d) *Training of Instructors in Rural Household Management.*

1. The most effective method appears to be that of organising *teachers' training colleges in rural domestic science*, on the lines of those in existence in Belgium and elsewhere during the past twenty years. Candidates are admitted after completing their general intermediate education, subject to passing an entrance examination.

Preference should be accorded to girls born in rural environments. The syllabus, which covers three or four years, includes the natural sciences, household management and educational method. In the last year, special attention is devoted to practical instruction in teaching methods, and time is set aside for the preparation of individual theses on subjects connected with rural household management.

Examinations are held at the end of each year, and candidates successful in the final examination obtain the degree of rural instructor in household management, which qualifies them for elementary and intermediate teaching.

2. In the case of teachers for the lower schools and for elementary courses, a certificate granted by intermediate schools of rural household management may prove sufficient, provided the candidate shows some capacity and liking for teaching.

3. In countries in which this form of training is still in its infancy, and until such time as fully trained teachers are available in sufficient numbers, it may prove useful to train rural teachers of domestic subjects in a more summary manner. For this purpose, it will probably be possible to organise, in the more accessible centres, courses and demonstrations in rural household management lasting a few months only, or one year at most; to these would be admitted one or two girls chosen from among the best educated and most intelligent in each village in the district.

The object of these short courses would be to give the pupils theoretical and practical training as instructors in rural domestic sciences. The theoretical programme should be limited to essentials, most of the effort being concentrated on practical work. The course would conclude with an examination, on passing which candidates would be granted certificates of theoretical and practical proficiency and of suitability as teachers of the rudiments of domestic science.

Successful candidates would then be in a position, upon returning to their own villages, to instruct women and girls, and to give them practical demonstrations of the knowledge they had acquired. This instruction would naturally be given during the slack agricultural season, each lesson lasting one, two or three hours, according to local possibilities. Instructors must be provided with the equipment required for practical demonstrations. If the audience showed interest, arrangements could be made for similar equipment to be put at the disposal of each pupil at low cost. Finally, to stimulate attendance, prizes might be offered, in the form of useful domestic objects, to those pupils who had been most regular and attentive, and who had best fulfilled the expectations of their instructor.

### 3. *Inspection of Training Classes.*

In order that training of this type may be as efficient and successful as possible, it appears essential to create an inspection service placed in the charge of women fully competent in rural household sciences.

These inspectors should help the younger instructors, especially in the beginning, to master the details of their tasks, and advise them in any difficulties that may arise in the course of their work.

#### 4. *Continuation Courses.*

Finally, annual continuation courses, lasting a fortnight or more, should be organised to give village instructors an opportunity of bringing their knowledge up to date and improving their technical and practical competence. Such continuation courses should also be entrusted to the experts in charge of inspection work, so as to enable them to correct such inaccuracies and errors as they may have detected in the work of the instructors during the previous year.

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### III. ADMINISTRATIVE ORGANISATION OF AGRICULTURAL TRAINING

The object of agricultural training is to help the agricultural classes by giving them a foundation of technical and economic knowledge, enabling them to obtain the best possible results from their agricultural activities.

Such training must be organised and directed by persons who are acquainted with agriculture and the related sciences and who have specialised in the appropriate type of instruction through personal, active and prolonged participation in that form of training.

At the same time, agricultural training systems have an administrative aspect, covering the observance of general regulations and execution of decisions taken on the proposal of, or after consultation with, the technical authorities.

That administrative side can, if no other course is open, be put in the hands of officials having no special agricultural qualifications, in order to save the time of the agricultural technicians, for whom, in most cases, more productive and useful work can be found.

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At the present time, the method of organisation of agricultural training varies considerably from country to country. In some, the whole system is under the direction of the Ministry of Agriculture as being the Department most closely concerned with agricultural activities and best acquainted with the structure, aspirations and needs of agriculture.

In other countries, however, the agricultural training department has been taken from the Ministry of Agriculture, to which it formerly belonged, and placed under the Ministry of Education. Those who made that change did so chiefly in the expectation of obtaining advantages in general organisation, uniformity and the application of modern teaching methods.

In some countries, the agricultural training department has been placed under the Ministry of Education, not in the interests of the training system itself but solely for reasons of internal policy—*e.g.*, to satisfy political groups seeking to counteract the influence of the Ministry of Agriculture in rural areas.

In some cases, the linking-up of agricultural training with public education has been complete, while, in others, the administrative branch alone has been separated from the Ministry of Agriculture, the latter remaining in charge of

technical questions and particularly of the inspection of agricultural schools.

All the various types and methods of organisation have already been examined and discussed on several occasions at international gatherings.

Sufficient experience seems to have been gained in the last few years to enable a considered judgment to be formed as to the advantages and disadvantages of the various systems, and to enable conclusions to be drawn which may be of benefit to agricultural training.

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1. It seems clear that *the complete detachment of the agricultural training branch from the Ministry of Agriculture* must ultimately destroy the contact which should normally exist between the agricultural community and the system of vocational training in which it is most directly interested. Such a cleavage necessarily lessens the value of that form of training and the services it can render to the agricultural community.

Where agricultural training is merged in the vast field of general education, it generally comes to be looked upon as of secondary importance and value, and is dealt with as such by the higher authorities, who are mainly concerned with the organisation and working of educational services designed for the population as a whole.

*In the writer's view, this situation must be changed, as being patently inadequate and prejudicial to the successful conduct and development of agricultural training.*

2. The second system consists in *separating the administrative branch of agricultural training from the Ministry of Agriculture* and transferring it to the Ministry of Public Education. The disadvantages here seem to be fewer than in the first case.

The technical direction, and more particularly the inspection of agricultural training, remains in the hands of the Ministry of Agriculture, which retains the right to be consulted and to express its opinion—although, in most cases, this opinion may be either accepted or disregarded—on all matters connected with the organisation and working of agricultural training. But in fact, as experience shows, the *whole* actual management of agricultural training quickly passes to the administrative authorities. Yet the latter may be without technical agricultural knowledge, even though they are the only channel of approach to the responsible Minister, whose decisions are often at variance with the proposals of the technical branch.

Under this type of system, most of the questions which come up for decision are in fact dealt with by the administrative department; this is the case as regards, for example, the

appointment of technical teachers, the programme and timetable of lecture-courses, the organisation of examinations, etc. The reports and comments submitted by the technical inspectorate are forwarded to the administrative branch, which, though bound to take due action upon them, may also shelve them without being subject to any central. Such differences of view as may, and indeed must, inevitably arise between the technically unqualified administrative authorities and the technical experts are, in most cases, settled in the administrator's favour, since it is the latter which has the power to propose final decisions to the Minister of Education. He, for his part, is occupied with a great variety of other questions, nor is he competent in matters of agricultural training.

Thus, agricultural training gradually loses its special character, its particular adaptation to agricultural conditions and hence its effectiveness and value. *This system is therefore equally detrimental to the efficiency of agricultural training.*

If it is considered that the separation between the technical and the administrative direction of agricultural training has to be retained, suitable measures should be adopted to minimise as far as possible the serious disadvantages inherent in such a system.

Among such measures, the most important and essential, in the writer's view, is the appointment, as head of the administrative branch, of a technician fully conversant with agricultural training and possessing administrative experience gained in the course of his career.

The presence of an administrative head who is competent technically as well as administratively seems calculated to reduce to a minimum the serious defects to be found in the systems at present in force in various countries.

In addition, the value, efficiency and weight of the activities and decisions of the technical branch must be preserved.

Reports and proposals submitted by the technical branch must be examined carefully and implemented rapidly ; otherwise the inspectorate is bound to become indifferent and discouraged sooner or later, when it finds that its suggestions invariably remain a dead letter.

A system so improved will still have certain disadvantages—*e.g.*, duality in the practical administration of agricultural training, the respective heads of the technical and administrative branches being technicians whose views may well differ on many issues. In such cases, it will be for the Minister himself to take a final decision.

3. In order to give a clear indication of what appears to be the most efficient system, one likely to ensure the satisfactory

organisation and working of agricultural training, the author, whose views are based on nearly forty years of experience, would express a preference for the merging of the technical and the administrative branches under a General Directorate of Agricultural Training, placed under the authority of the Minister of Agriculture.

The Director-General of Agricultural Training should be a technician having administrative experience. It will be highly desirable, if not essential, that he should have taken an active personal part in agricultural training for an adequate period.

He should have under his charge both the technical branches (organisation, technical inspection, etc.) and the administrative and executive branches.

It will be his duty to see that the two sides remain each within its own proper sphere of action.

Officials of the technical branches should be technically competent and should have had satisfactory experience in practical agricultural training.

In brief, agricultural training must be well organised, must be placed in the hands of competent and experienced directors, with the administrative staff necessary to give proper and prompt effect to the proposals of the technical experts. The latter must be responsible for the efficient working of the system and must accordingly be given the effective direction of the service.

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