

of Mewat are determined. Meanwhile the general idea that the Government has command of large areas which it could, but will not make over for Jewish settlement is far removed from the facts. This myth is based on a tradition of disappointment because of the action of the Government of Palestine in regard to the concession of Government lands in the Huleh Basin, and to the settlement of the area covered by the Ghor Mudawwara Agreement with the Arabs in possession of that area.

CHAPTER VI.

The Position of the Fellah.

Available information.—The present enquiry has fortunately occurred at a time when the question of the economic position of the fellah has formed the subject of two serious investigations. The first of these has been made by a Commission appointed by the Administration which, after a detailed enquiry into the position in 104 representative villages, submitted its report to the Government on July 3rd, 1930. The results of the second are recorded in a volume by Dr. Wilkansky, head of the Zionist Agricultural Experimental Station of Tel-Aviv. This volume is not yet published in English, but the proof sheets have been made available by the courtesy of Dr. Wilkansky for the purposes of this enquiry.

Area of cultivable land occupied by the Fellah.—The question of the cultivable area of Palestine has been examined in another part of this report, and the estimate of the Director of Surveys has been accepted as the most reliable available estimate. He puts the cultivable area of the whole of Palestine, including Beersheba, at 8,044,000 dunams. For the purposes of the present enquiry the Beersheba tract—as to whose area little is in fact known, and which depends on an erratic and insufficient rainfall—is omitted, and consideration directed to the cultivated areas in the Hill country and the Five Plains which have already been described. The total cultivable area of these two regions is 6,544,000 dunams. Of these at least 900,000 dunams are already in the possession of the Jews.* There are thus 5,644,000 dunams available for the Arabs at the present time.† This figure differs materially from the figure quoted by the Commission on the Disturbances on p. 113 of its Report, and used in the arguments on pp. 120 et seq.

* The total Jewish holdings are reported at 1,250,000 Turkish, i.e., 1,149,000 metric dunams. Allowing 20 per cent. for uncultivable land, the remainder will exceed 900,000 dunams.

† There are some areas held by German colonists and certain ecclesiastical authorities, but they are comparatively so small that they need not be taken into account in this calculation.

The "Lot viable".—On pp. 120 and 121 of their Report that Commission writes as follows:—

" . . . Now, the area of land required to support the average family must vary with the fertility of the soil. From evidence given before us it would appear that where the land is used for the purpose of growing cereals the area which will provide a living for an Arab family varies from 100-150 dunams. No other figures were put forward from the Arab side, but Dr. Ruppin informed us that the average area of a Jewish colonist in the old wheat-growing colonies in Lower Galilee is 250 dunams, in the Zionist settlement in the Plain of Esdraelon with dairy-farming it is 100 dunams, and in the Coastal Plain, where orange growing is the principal occupation, it is 10-20 dunams.

" From the figures given by the experts who were appointed by the Joint Palestine Survey Commission and who visited Palestine in 1928, it would seem that the average Jewish holding of land in the Zionist colonies is to-day 130 dunams. These gentlemen found that few of the Jewish colonists were able to make a satisfactory living on their present holding. The experts were of opinion that in many districts the area of the average holding should be increased."

The joint Palestine Survey Commission, at p. 67 of their report, write the following:—

" Palestine experience shows that a dry farm should have from 40 to 80 acres, whether in the Coastal Plain or in the Emek, and that 60 acres is a safer limit than 40."

That is to say that in their opinion, the absolute minimum for a farm in either of those two areas is 160 dunams and that 240 dunams is a safer minimum than 160. It will be remembered that the Emek is looked upon as one of the most fertile regions of the country.

The "Lot viable", the holding necessary to support its occupants in a reasonable standard of life, varies of course with the class of land of which the holding consists. Not only is there a wide difference between the unirrigated holding necessary for this purpose and the similar irrigated holding. Among dry holdings some are much more productive than others. For this reason it is impossible to fix any holding which might be taken as the standard holding in irrigated and unirrigated tracts respectively. Although it is true that no such standard holding can be taken, it is well to arrive at an approximate average holding for lands of various kinds. Many such averages have been suggested, and have been treated as to a certain extent authoritative.

The question of appropriate holdings in the various zones and for different types of farming have been discussed at length in a "Key for the Settlement of Various Zones in Palestine", being the reports of the Preparatory Commissions appointed by the Zionist Organisation to consider the question of the preparation of the land for the settlement of Jewish immigrants. The Key was, it is understood, written by Dr. Wilkansky. On p. 6 the unit area of the ameliorated colonies on non-irrigated heavy soil is fixed at 200 to 250 dunams, though a few may be as small as 160 dunams. On pp. 16 to 20 is discussed the unit of an improved farm of fixed system. The basis of the farm is dairying, and it is assumed that the settler is supplied with six cows. For such a farm the unit

required is 130 dunams. It is added: "With land not so well improved it will be necessary to add 10-20 dunams according to the fertility. In certain districts, therefore, the unit area will have to be increased to 140-150 dunams".

Again, on p. 37, there is an estimate of the area required for a farm in the stage of transition, that is to say, when it is being improved for the reception of the settlers. At that stage one settler's family is put on to a double farm. When it is improved he retains one half and a second family is installed on the other half. The total area of the farm is 280 to 300 dunams, the size of the individual farm, again a dairy farm, being from 140 to 150 dunams. For a heavy soil farm, entirely irrigated and to support 8 cows, the area is estimated at p. 42 of the Key to be 25 dunams. Finally, at page 44, an estimate is given of a typical farm in a dry grain section, with 10 dunams of irrigated land, and the area required is found to be 80 dunams. Here again the basis is dairying, with four cows. In all the cases dealt with in the Key, the lot is so calculated as to be workable by the members of the family without any outside assistance. In all cases also the basic industry is dairying and the farm is planned for the feeding of cows. The anticipated yield of milk is in each case considerably higher than the milk yield of the common country cow.

An interesting piece of evidence on the subject of the "lot viable" is contained in the negotiations between the Administration and Mr. Ben Zvi of the General Federation of Jewish Labour, on the subject of a grant of land at Tel-Arad for Jewish ex-service men. An area of 200 dunams per settler was demanded. It was pointed out by the High Commissioner that in other cases 70 dunams had been granted to settlers. Mr. Ben Zvi maintained that this was where there were plantations and that the P.I.C.A. allowed 250 dunams for each family. Later he stated that 200 dunams was the minimum that would suffice for a family and this basis was accepted.

Saleem eff Farah was of the opinion that 150 dunams of unirrigated land is the minimum which will support the family of the fellah in a reasonable standard of comfort.

In the Memorandum on "Land and Agricultural Development", submitted by the Jewish Agency, the question of the lot viable in various areas is dealt with. In the Emek it is calculated at 100 to 150 dunams. Where water is available, the area can be reduced at the ratio of one dunam of irrigated soil to four or five dunams of dry soil. In the "Key" to which reference has been made above, Dr. Wilkansky considered one dunam of irrigated soil as equivalent to three dunams of unirrigated soil. In the Maritime Plain irrigated areas suitable for oranges can be settled on the basis of one family to 15 dunams, if only partly suitable for oranges one family to 22 dunams.

Dealing with the Huleh area the Memorandum of the Jewish Agency considers that 25 dunams of irrigated heavy soil or 22 dunams of irrigated light soil should be sufficient for a holding.

Mr. Hankin, on the other hand, considered 40 dunams, of which half irrigated, as the correct holding. The experts of the Jewish Agency are of the opinion that 25 dunams are sufficient in the case of the Beisan and Semakh lands if irrigated, and recommend 86 dunams of unirrigated and 14 of irrigated in that area. On the slopes and the heights to the north of the Haifa Semakh railway line they consider 150 dunams necessary. For the Lower Jordan valley a standard holding of 21 dunams is suggested. This suggestion is made tentatively and admittedly without close detailed knowledge.

The most surprising suggestion on this question of the "lot viable" is contained in an Appendix to the Jewish Agency Memorandum, supplied by Dr. Joseph Weiz. He deals with the Hill country and alleges that the area that can be cultivated is 5,137,495 dunams. This compares with the estimate of the Director of Surveys of 2,450,000 dunams. The basic lot should, he suggests, consist of 30 dunams, 10 dunams containing olive and fig trees, eight containing fruit-trees, seven containing grape-vines, and five occupied by the farmyard and vegetable patch. By arranging in this manner he concludes that there would be room for a further 74,000 families in the Hills. It is difficult to take the proposal as a serious contribution to the study of this important subject. That Dr. Weiz has his doubts may be concluded from the last sentence of his note:—

"Even if a further reserve of 50 per cent. is made, it would follow that there would be room for the additional settlement of 35,000 families in the Hill country during the next thirty years."

The report of the Committee on the Economic Condition of Agriculturists records the opinion, at page 32 of the report, that:—

"To provide the minimum cost of living for a family, a holding of 75 dunams seems to be necessary for an owner-cultivator while a tenant requires 130 dunams."

This opinion was arrived at on a consideration of the gross return from the holding at the prices of the years 1924 to 1928. As has been shown elsewhere, present-day prices are but 50 per cent. of those adopted by the Committee in arriving at its deductions.

A detailed investigation was made into the conditions in the village of Beer Zeit, in the Hill country, for the purpose of this enquiry. Of the cultivation 27.4 per cent. consisted of olive groves 8.2 per cent. of figs and other fruit-trees, 17.8 of vines and 46.6 of cereals. It was found that there were 180 families in the village, that the "lot viable" was 112 dunams, and that the village could only provide holdings of that area for 65 families. There were therefore 115 families in excess of the number which the village could actually support. The total debt of the village amounts to £7,000, an average of about £39 per family. The sources of maintenance beside cultivation were remittances from persons who had emigrated to America from the village, daily labour in the village and elsewhere, and additional borrowing from

the moneylenders. And Beer Zeit is regarded as a village above the average of Hill villages in prosperity.

Conclusion.—It is clear that in unirrigated land the "lot viable" is not less than 130 dunams, unless command of considerable capital enables the tenant to maintain a dairy herd of foreign or cross-bred animals, in which case in the richer tracts, the holding may possibly, but questionably, be reduced to 100 dunams. Where irrigation is available and where dairying is possible, the holding may be reduced to 40 dunams of which half irrigable. Where plantations are established the "lot viable", at present prices of Jaffa oranges and bananas, may be placed at 15 to 20 dunams.

Economic position of the fellah.—Evidence from every possible source tends to support the conclusion that the Arab fellah cultivator is in a desperate position. He has no capital for his farm. He is, on the contrary, heavily in debt. His rent is rising, he has to pay very heavy taxes, and the rate of interest on his loans is incredibly high. On the other hand, he is intelligent and hard-working, and pitifully anxious to improve his standard of cultivation and his standard of life. And very little has been done for him in the past.

Distribution of available area.—It has been shown that there are about 61,408 fellah families who cultivate some 5,644,000 dunams of land. This gives an average holding of 91.9 dunams per family. It is true, as pointed out in the memorandum of the Jewish Agency on the Report of the Commission on the Disturbances, that there are a number of Arabs who cultivate orange groves and vegetables. Their number, however, is not material to the argument and may be set off against the reduction in the area due to the German villages and to a certain area of agricultural land held by some of the churches.

The enquiry of the Commission on the Economic Condition of Agriculturists in 104 villages resulted in a very different estimate. In the cases of 16,633 families it was found that the average holding was 75.00 dunams per family. It was also established that of 23,573 families resident in those villages only 5,477 farmers live entirely from agriculture. Of these 3,873 hold over 240 dunams and 1,604 from 120-240 dunams. Not a single farmer who held less than 120 dunams was able to live on the produce of his farm without outside employment, and of 3,261 holding from 120-240 dunams 1,657 found it necessary to procure employment in addition to their farming, in order to maintain themselves and their families. From this it is quite clear that 120 dunams is not a lot sufficient to support a fellah family with cereal cultivation. This bears out the opinion of the Experts quoted by the Commission on the Disturbances on p. 121 of their Report, to the effect that the area required for a holding varies from 160 dunams per family in good soil suitable for dairy farming, to 320 dunams in the less productive soil of the cereal-growing districts. In fact the average existing fellah holding is insufficient to maintain anything like a decent standard of life.

The requirements and standard of life of the Fellah.—The life of the fellah is one of great struggle and privation. The Director of Education, in the course of a note, makes the following remarks :—

"The economic state of the agricultural population is desperate. Hardly any Arab village exists which is not in debt. The fellahin are so over-taxed that they find great difficulty in paying the tithe. Moreover, after an excellent harvest, they are unable to sell their corn or barley or oil. In 15 villages recently visited by the writer in Galilee, the same desperate state of affairs was evident. Money is so scarce in some places that the people purchase the necessities of life by barter, and they cannot pay the tithe without further borrowing. This means increasing their already overwhelming debt to the moneylender 'We have been struggling in deep water for several years, and very soon the water will close over our heads' was the statement made in one village, which may be taken as typical of the state of mind in every village

"If the state of the Arab fellah is to be improved, and it is evidently one of the most important problems which face the Administration in Palestine, his children must be given an education which will help them to avoid falling into the situation in which the present generation finds itself to-day."

Dr. Wilkansky writes as follows :—

" The diet of the fellah is poor and monotonous. His staple food is 'pittah,' [cake of unleavened bread] which he bakes every day. A few pittahs, with onions or radishes form his morning and midday meals. A cooked meal, called by him 'tabiach,' is only prepared for him in the evening. It consists of the herb—'hubza'—flavoured with onions and pepper. When tomatoes are in season he eats tomato salad flavoured with pepper. Pepper and oil are his two condiments. Most of his requirements are provided by his own fields, and he buys but little outside The fellah uses very little meat. For entertaining visitors he will kill a sick sheep, or some sick fowls. They also have meat when an ox or a camel falls ill beyond recovery. They then kill the animal and treat the members of the village with a portion of the flesh. Sometimes with the money which the woman obtains in the market from the sale of fowls, cheese and eggs, she purchases a pair of trotters, a head or so forth, from which she prepares a special treat on returning home."

The Fellah's capital.—The fellah may or may not own his land but he has no free working capital. The amount invested in his farm is detailed by Dr. Wilkansky as follows :—

	£
Oxen, or a camel	15 to 20
1 ass	3 to 4
1 plough	0.40
1 threshing board	0.60
2 wooden picks	0.15
1 iron pick	0.20
7 sacks for straw	0.60
1 scythe (?sickle)	0.10
1 yoke or pole	0.60
Ropes for binding	0.30
2 sieves	0.25
Total	£21.20 to £27.20

In addition he may have 20 sheep worth £1 each, a cow worth £6-£10, a goat worth £0.80 to £1, and 30 fowls £3 to £4, making a grand total of £51 to £62.20.

The fellah's plough.—It is a common impression that the fellah's cultivation is entirely inadequate, and a good deal of ridicule has been and is poured upon the nail-plough which he uses. In the stony country of the Hills no other plough would be able to do the work at all. With regard to the use of that plough, Dr. Wilkansky writes :—

" The Arab plough is like the ancient Hebrew plough Its distinguishing characteristic is that it cuts the surface soil and does not turn it up. It performs, very slowly, it is true, but very thoroughly, all the functions for which a combination of modern machines is required—a plough, a roller and a harrow. Its great virtues are that it does not bring up clods, that it does not press or crush the moist earth, but flits as it were over the ground with its coulter which resembles a duck's foot in its base, and that it penetrates the ground with its point, which is sharp and long like the head of a spear. It produces the requisite loose and broken crust by itself, without the aid of other implements. But the ploughing of the fellah is above reproach. His field, prepared for sowing, is never inferior to that prepared by the most perfect implements, and sometimes it even surpasses all others. The defect lies only in the slowness, which calls for modification in order to adapt the working process to the rate of speed in our time."

The fellah as a cultivator.—The fellah is neither lazy nor unintelligent. He is a competent and capable agriculturist, and there is little doubt that were he to be given the chance of learning better methods, and the capital, which is a necessary preliminary to their employment, he would rapidly improve his position. Meanwhile, however, the income which he can procure from his inadequate farm is insufficient to maintain him in a decent standard of comfort and leaves no margin whatever for improvements.

The method on which the average cereal farm of the fellah is worked is that the holding is divided into two areas. In one of the areas he sows his winter crops, while the other lies fallow. In this fallow portion, in the spring, the summer crop is sown; in the former portion, after reaping the winter crops in May and June, the land lies fallow until the following spring, when the summer crops are sown. In the latter portion, after the reaping of the summer crop, the winter crop is at once sown. Thus in each portion two crops, one summer and one winter, are taken in two years.

The return from the fellah's farm.—The return from a farm of 120 dunams is very small. The gross income is estimated at £40, of which £10 is payable as tithe, leaving £30 for the family expenses of the year. (Mr. Smilansky's pamphlet: "The Jewish Colonisation and the Fellah"). Dr. Wilkansky has made a detailed estimate of the income and expenditure of an ordinary fellah on a holding of 80-100 dunams in his work on "The Fellah's Farm," to which reference has already been made. This estimate

and estimates contained in the report of the Committee on the Economic Condition of Agriculturists are included in Appendix 18.

In connection with Dr. Wilkansky's estimate it is to be remarked that nothing is shown as payable for rent, also, that income is shown from milk, but nothing on the expenditure for the feeding of the cow. The balance available for personal expenditure of the whole household for a year is 18s. This sum has to meet all luxury expenditure, including expenditure on the purchase of meat and this for five or six persons.

Deductions from the figures supplied by 104 villages.—In the enquiry conducted by the Committee on the Economic Condition of Agriculturists, returns were made showing the gross income declared as received from all sources in the 104 villages in question. This declaration was revised by the Committee on the basis of average prices of the previous four years taken in 1928 for the purpose of commutation of the Tithe. In the Committee's estimate also the total produce reported by the villages was revised to agree with the average yields per dunam used for the commutation of the Tithe. The returns thus calculated given in that Report are appended to this Report in Appendix 13. Prices have fallen very materially since the commutation of the Tithe in 1928, and a calculation has been made of the gross income of the 104 villages, applying the prices prevailing in May, 1930. The sum reached is £306,043, as compared with the declared return of £301,999, and the Committee's calculation of £483,600. The yield accepted by the Committee has been taken as the actual yield for the purposes of the new calculation. That on which the declaration was based is considerably smaller. (For yields, *see* Appendix 24.)

On the figures adopted by the Committee the gross average yield of 100 dunams of field crops only amounts to £51. On the revised figures now calculated it is £32.

The above figures refer only to the income from the field crops. From fruit trees, stock, dairy produce, poultry and other village sources, and from transport and labour outside the village there was a declared income of £242,882. This figure was examined in detail by the Committee. They have raised it to £429,070. They have, however, continued to take the prices on which the Commuted Tithe was based rather than existing prices. For instance, they estimate the value of olive-oil at £53 a ton, while the present price is but £33 a ton. Making an adjustment on this account a figure of £388,373 may be accepted as the income from other sources than crops. Thus the following result is reached :—

	£
Declaration made by the villages as total income	544,881
Income as calculated by the Committee	912,670
Income as now calculated	694,416

The gross income per family on the above totals works out at £P.23.050, £P.38.350, and £P.29.20 respectively. Out of this amount has to be met (a) expenses of production, estimated by the Committee at £P.22; (b) Taxes, calculated at £P.5; (c) The maintenance of the fellah and his family. The household expenditure is shown by Dr. Wilkansky to be £P.49.50. In none of the cases, therefore, does the total income cover the essential expenses of the cultivator.

The fellah's debts.—In addition to these facts it must be borne in mind that the average holding of 104 villages is not 100 dunams, but 75 dunams, and that the average debt per family amounts to £P.27, on which the rate of interest of 30 per cent. is usual, that is to say, that for interest alone the family must pay £P.8 per annum. The rate of 30 per cent. is regarded as quite reasonable, and is indeed exceeded in many cases. It is a usual practice for the moneylender or the merchant to make an advance on terms known as "ashara-hamastash," which means that a sum of £P.10 advanced at the time of sowing is repaid by a sum of £P.15 at the time of harvest. Another common arrangement is interest at the rate of 1s. in the pound per month.

Legal rate of interest.—In regard to this question of interest, it is true that the legal rate of interest is 9 per cent. per annum. This law is a dead letter. There are many obvious methods of evasion, and even were there no such methods, no fellah would dare to defend himself by means of this law, as he would unquestionably close to himself the door of the moneylender for ever. Without the moneylender he cannot live.

Financial situation of the Fellah.—As to the financial situation of the Arab farmer the Committee on the Economic Condition of Agriculturists write :—

" Up till the middle of 1929, the net income of the average agricultural family has been between £25 and £30, and the family has contrived to live on this income. It is clear, however, that there must have been many families less favourably situated, who have been obliged either to lower their standard of living or to fall into debt . . . many farmers now owe sums that are quite beyond their capacity to pay"

At another place they write :—

" We think that it may safely be assumed that, with very rare exceptions, every village can provide its own subsistence even if the standard of living may fall slightly below the figure we have estimated. The farmer is often—perhaps habitually—short of ready cash, but there is no evidence that he or his family are ever without sufficient food for their subsistence"

It should be remarked that between the middle of 1929, to which period the Committee refer in discussing the net income of any agricultural family, and the month of July, 1930, the price of agricultural produce fell heavily. In the graph appended to this report (No. 1) it is seen that the price of wheat fell in the twelve months in question from £11 to £6 per ton, that of barley from £5 to £3, and that of durrah from £8 to £4. The net income of

the family cannot therefore now be regarded as £P.24 or £P.30. It has reached vanishing point. The calculation of the Committee showing that the net return of 100 dunams to the owner-cultivator is £P.35.200 and to the tenant £P.20, has been revised on the basis of the prices of July 1930. The calculation is contained in Appendix 15 to this report. The result shows a net return of £P.11.800 mils in the case of the owner-cultivator and £P.3.600 mils to the tenant.

From this the interest on debt—on the average not less than £8 per family—clothes for the whole family, and all other living expenses, must be met. It is no exaggeration to state that the fellah population as a class is hopelessly bankrupt.

Commutation of the Tithe and the result of the fall in prices.—The position of the Arab cultivator has always been one of extreme poverty, but there are at the present time certain circumstances which render it more desperate than has been the case in the past. In the year 1928, steps were taken to commute the Tithe. This payment was based on the average yields and prices of the four preceding years. Since that time there has been a progressive fall of prices of agricultural produce. (Vide Appendix 14.) During the present year the fall has become more rapid and more pronounced. As a result, the Arab cultivator has now to sell, not one-tenth, but one-fifth of his crop in order to pay the Tithe in cash. Indeed, in many cases the amount is more than one-fifth for the prices for commutation of the Tithe were based not on prices of the village but on those of the market town, and the two rates vary largely. In addition, the price of sale is lower than the price of purchase, and the price of forced sale is still lower. At the time of this enquiry actual prices of sale were in certain cases extraordinary. Villages found it exceedingly difficult to sell at all, and there was an established case reported in which barley was sold at Gaza at £P.2 a ton, when the quoted market price was £P.3.100, itself a price exceedingly low.

Diminution of the size of holdings.—There is also a progressive diminution in the areas of the holdings; in every village visited there were complaints on this score. Portions of the holdings have been sold either to pay off debts or to pay the Government taxes or to obtain the wherewithal to keep the family alive.

The population of the villages is increasing faster than in Turkish times, owing in large measure to the cessation of conscription. There is consequently increasing competition for land, and division of holdings among the increased number of members of the family.

Rise in rents.—Rents are rising; those who wish to rent land find it difficult to obtain it, and offer rents which frequently cannot be paid and yet leave a surplus for the maintenance of the family in a standard of reasonable comfort. Cases were reported in which fellahin who desired to obtain land offered 50 per cent. of the produce, the landlord paying the Tithe. The Committee reports

that the commonest rent is 30 per cent. of the produce, the tenant paying the Tithe, or 40 per cent., the Tithe falling on the landlord. Money rents are now beginning to appear in some parts of the country, as was to be expected as a consequence of the commutation of the Tithe. These rents vary from about 50 mils to 250 mils the dunam. The most common is 100-150 mils (i.e., 2s. to 3s.). Above it has been reported that the gross income from 100 dunams of field crops is £32 at present prices. At 3s. a dunam the rent would be £15 for 100 dunams, that is, equal to about 47 per cent. of the gross income. One case reported has reference to land owned, but not yet settled, by Jews, of which Arab tenants in an adjoining village rent 5,600 dunams. Up to the year 1926-27 the cultivators paid 20 per cent. of the produce in kind. Since then, the lease has been put up to public auction and in 1927-28 produced £260, in 1928-29 £400, and in 1929-30 £525. It is not suggested that the rent is even now excessive, but the rise of more than 100 per cent. in the past three years demonstrates the amount of competition that exists for land.

Warrants and imprisonment for debt.—A further symptom of the economic position of the Arab cultivator is found in the number of cases in which it is necessary to issue warrants for debt. Attempts were made to collect information on this point, but it has been found difficult to concentrate figures. The Supreme Court gave information with respect to warrants issued for debt in all districts during the first two months of the present year, except in the district of Jaffa, for which the figures were not available, and the actual imprisonment figures for Haifa, which were not reported. The statement is therefore not complete, but even so it shows that in the two months in the area included in the return 2,677 warrants were issued for debt and 599 persons imprisoned.

A report on this point was received from the Director of Agriculture in respect of the Haifa district for the past year. From this it appears that in the Magistrates' Court at Haifa alone and for the Sub-district of Haifa, with a population estimated at 67,800, there were heard 8,701 proceedings for debt, issued 4,872 orders for execution and filed 2,756 applications for imprisonment for debt. Assuming that the average family consists of 5 persons, the total number of families in the Sub-district was 13,560. The execution proceedings taken were thus in number equal to 64.2 per cent. of the number of families of the Sub-district. According to the census of 1922 the Jewish population represented less than 20 per cent. of the population of this Sub-district.

Taxes on agriculture.—The taxes paid by agriculturists are :—

- (1) The Tithe.
- (2) The Werko.
- (3) The Animal Tax.

In addition the agriculturist pays indirect taxes upon imported goods which he purchases, and fees on registration when land is transferred.

Tithe.—1. The Commuted Tithe has now replaced the tithe, except in the case of a small number of Bedu tribal areas in the Beersheba Sub-district, where the Tithe at the rate of 10 per cent. of the produce of the land is still collected in money. As has been noted above, the commutation of the Tithe was carried through in 1928. In Appendix 14 of this report the market prices of the chief crops during the four years of which the prices formed the basis of commutation, the rate adopted for conversion and the market rate of July, 1930, are shown.

House and Land Tax.—2. The Werko is the house and land tax, authorised by the Ottoman Law of 5th August, 1886. It is assessed on capital value, and at various rates which are shown in Appendix 16. The rate on lands subject to Tithe, and on ordinary farm buildings is 4 per mille. An addition to this tax aggregating 41 per cent. on buildings and 56 per cent. on lands was levied from time to time by Ottoman Decree, and is still collected, except in the case of buildings and lands re-assessed since 1919.

The Animal Tax.—3. The Animal Tax is imposed per capita once annually at the following rates :—

Sheep and goats	...	...	...	...	48 mils.
Camels and buffaloes	...	...	...	...	120 mils.
Pigs	...	...	...	...	90 mils.

Camels and buffaloes used solely for ploughing are exempt from the tax. Double taxes are charged on all animals not declared by the owners at the time of enumeration.

Recovery of taxes.—The following note was prepared by the District Officer of Jaffa on the question of the taxation of the fellah.

" The information given at Lydda, that sometimes a man's whole crop is attached for taxes is correct. The further statement, however, that he is prevented from selling a part of it in order to redeem the rest needs qualification The crop of the villager is the only thing that a revenue officer can find if he wants to attach for taxes. This crop can be got hold of only before threshing. . . . The only way to do this is to place a guard during the time that threshing is going on. This guard fully gives the impression that no crop may be disposed of before the tax is paid. He is, of course, kept at the expense of the defaulters, and his wages are an additional burden. Rather than pay these wages the defaulters often incur debt in order to pay off the tax and get rid of the guard. The impression therefore remains that attachment could not be removed until the whole tax is paid. In fact the villager finds a great deal of difficulty in threshing, and then selling just a part of his crop while attachment is going on at his expense. To deal with a small crop in bits is not easy, nor is the disposal of it in small quantities easy. It means a special journey to town, where he may have to spend a day or two before he can sell and get his

money In many cases, the only way out of it has been to incur debt In conclusion, I feel it is my duty to mention a frank opinion in regard to the collection of taxes in the villages I believe that at least 50 per cent. of the rural population, on account of their very small incomes, which do not exceed £30 per annum per family of six persons, ought to be relieved from all taxation. To such persons the price of crops is immaterial, as they have practically nothing surplus to sell. . . . The villagers have in these cases paid, by allowing themselves to suffer privations or by incurring debt I am thoroughly convinced that if these villagers were to refuse payment and say 'we are sorry, but we would pay if we only could', we should find ourselves totally unable to collect the taxes by legal methods. This is a point which deserves the serious consideration of Government I submit therefore that it is essential that a minimum be exempt from taxes with as little delay as possible. The amount which these villagers pay is not great, but in proportion to their income it is excessive."

The above has been quoted at some length, as it is typical of the complaints and proposals made in every quarter. The holding of the fellah is so small, and his out-turn so exiguous that the agricultural tax falls on him with special force. And this is aggravated by the present fall in prices. Everywhere this year the small cultivator has had to borrow in order to pay his taxes, when he has paid them. In very many cases he has found it impossible to pay them at all. The arrears of agricultural taxes are very heavy. In Appendix 17 a statement of these arrears is shown. It gives a total of £238,000.

Taxation: Remedial measures.—Of the seriousness of this question of agricultural taxation evidence is afforded in the Report of the Committee on the Economic Condition of Agriculturists. The Committee found that the Tithe and Animal Tax together amounted to 19 per cent. of the net return from the use of land. The net return was reached by deducting from the assumed gross return the cost of production and the rent. But in arriving at the figure of net return they used prices of the Tithe commutation which are admittedly double those of the market to-day. The incidence of taxation would therefore be much higher if to-day's prices were applied. In fact, the Tithe, in place of being 10 per cent. of gross income, as it was at the time of commutation, is to-day actually 20 per cent. of the gross income.

Government action to relieve the burden of taxation.—The whole question of taxation is at present engaging the attention of the Palestine Government. At the moment the burden is not adjusted to the various classes of the community in accordance with their ability to pay. It is intended to replace the Tithe and the Werko by a land tax fixed in accordance with the quality of the land. The settlement is being carried out with this intention. Until it is possible to impose such a tax, the Tithe should be entirely remitted, if feasible. If it is found financially impossible to grant this measure of relief, as a temporary measure it might be possible to vary the Tithe in accordance with

the variation of the market prices of agricultural produce. As at the present time these prices stand at about half of the prices at the time the Tithe was commuted, the relief so afforded would amount to about 50 per cent.

THE BEDUIN POPULATION.

One of the problems of land administration in Palestine lies in the indefinite rights of the Beduin population. The problem was discussed by Mr. Snell in his Note of Reservations at pp. 177 and 178 of the Report of the Commission on the Disturbances. His examination does not lead to any specific recommendation and it is indeed exceedingly difficult to arrive at any definite conclusion on the subject of the treatment of the Beduin.

Of these nomads there were estimated to be 103,331 belonging to five main Tribes and 75 sub-Tribes at the time of the census of 1922, but it is generally agreed that this figure is inaccurate. The majority of these Beduin wander over the country in the Beersheba area and the region south and east of it, but they are found in considerable numbers in the Jordan valley and in smaller numbers in the four other plains. Their rights have never been determined. They claim rights of cultivation and grazing, of an indefinite character and over indefinite areas. Mr. Snell recorded that they have established a traditional right to graze their cattle on the fellah's land after the harvest. In the region which they regard as their own, they divide the country among their various tribes, and in the tract recognised as the sphere of a tribe, the Sheikhs or the Tribal Elders divide the individual plots among the families of the tribe.

The position is unsatisfactory. If, for instance, artesian water were discovered in the Beersheba area, there is little doubt that claims would immediately be urged, by the tribes of the Beersheba tract, to the land commanded by that water.

The Beduin are an attractive and a picturesque element in the life of the country, but they are an anachronism wherever close development is possible and is desired. At the same time their existence cannot be overlooked. In any solution of the Palestine problem, they are an element which must be recognised. Also in any plans of development it will be necessary carefully to consider, and scrupulously to record and deal with their rights.

Complaints are made by these people in respect of the Jewish settlement both in the Vale of Esdraelon and in the Maritime Plain. A deputation of the Sheikhs of the Beersheba Sub-district stated that they had been in the habit of taking their stock up to the North of Palestine during the summer months when there is no grazing in the South, and that it had been their invariable custom to graze their flocks and herds on the stubbles after

the harvest had been carried. This allegation is generally characterized as baseless, but in the report of the Department of Health for the year 1929, it is recorded that Beduin Tribes from the Beersheba District were "heavily infected" with malaria, "during their migrations up the Jordan Valley." It is also known that they bring their flocks of camels up to the tract north of Jericho during the calving season. It is also true that a few years ago when there was serious drought in the South of Palestine, very large numbers of animals belonging to the Beduin were transported to the North of Palestine, where they were allowed to graze.

At the time of inspection of the Wadi Hawareth lands a large number of Beduin tents were found in that area. It was stated that their migration to this region is a new departure and is connected with the attempt to defeat the efforts of the Jews to colonize that tract. This information comes from Jewish sources. From Arab sources it was alleged that the migration was annual, in connection with the summer grazing.

Their rights in the Jordan Valley will require careful enquiry before any scheme of development and settlement is undertaken in that area. If rights are established, and the tract over which they extend is necessary to the scheme, the Beduin must be compensated for the loss of those rights. The future of the Beduin is a question bristling with difficulties and by no means free from anxiety. It must be faced and a definite policy adopted. Otherwise there is always the danger that an outbreak may occur over some trivial and casual circumstance. It is impossible to anchor these people in houses or in villages. It may be that the only possible policy will be to create for them a reserve, which will be apart and excluded from the area designated for development.

CHAPTER VII.

Agricultural Development.

A. EXISTING AGENCIES.

Jewish Agencies for agricultural development.

The Experimental Station.—One of the important and progressive branches of Jewish activity in Palestine is the scientific development of agriculture. The Experimental Station of Tel-Aviv, with its extension farms in various settlements in the country, is not only engaged in research work of the highest value to Palestinian agriculture in general, but it is also the centre of agricultural instruction for the Jewish settlements. The Institution was founded in 1922,

and since that year some £85,500 has been spent on its equipment and maintenance. It is staffed by 40 scientists, has three laboratory divisions (Plant Pathology, Entomology, Agricultural Chemistry) and seven field divisions (Agronomy, Plant breeding and Variety testing, Horticulture, Horticultural breeding, Farm Management and Rural Economics, Dairy husbandry and the Extension Division).

The Extension Division.—The Extension Division is of great importance for practical agriculturists. It not only maintains demonstration fields, but also nine district instructors under a chief of division. The services of these instructors are available for any of the settlers who desire to refer to them. In the division of dairy husbandry the Institution is carrying out experiments in conjunction with the Empire Marketing Board on the questions of the uniformation of the herd, of the substitution of other feeding stuffs for milk in the rearing of calves and of the proper feeding rations for cows and calves.

The Hebrew University.—In addition to the Agricultural Experimental Station of Tel-Aviv with its extension farms, agricultural work of a scientific character is also done by qualified research chemists and analysts at the Hebrew University of Jerusalem.

Department of Agriculture of the Palestine Government.

The third agency for Agricultural Development is the Department of Agriculture of the Palestine Government. This Department has done outstanding work in two practical directions—in locust campaigns and in veterinary service, which has succeeded in stamping out the cattle plague. In both of these directions the work has been of untold value to the country. The Department has a very limited budget, and a criticism may be allowed that it has not the money requisite for practical demonstration work, work which is of particular importance in a country where agricultural practice is eminently backward.

The Agricultural Department is a composite Department, comprising the following services:—Agriculture, Forestry, Veterinary, Horticultural, Entomological, Irrigation, Fisheries, Stock-breeding, Analytical, Sericultural, Meteorological. It also controls the Kadoorie agricultural schools, which were founded with funds left for the purpose by a generous and wealthy Jew.

Expenditure.—The expenditure of the Department was £76,713 in 1929, and the estimate for 1930 was £77,054.

Relations with Jewish agencies for agricultural development.—There is a danger that the Government services will overlap the services supported by Jewish agencies and the Hebrew University.

This danger was early recognised by the Director of Agriculture, who wrote in 1921 :—

" The need for elasticity was pointed by a comprehensive programme of agricultural research drafted by the Zionist Commission early in 1920. This undertaking promised to limit our financial responsibility if correlation of effort could be secured. It was consequently agreed at a Conference held in June 1920 that certain clearly defined branches of investigation should be left to the Commission's technical advisers It was nevertheless decided that as Zionist co-operation was assured at no distant date, certain emergency services should be created to meet existing needs, irrespective of final plans for an organisation entailing considerable capital expenditure and a permanent staff."

Insufficiency of Budget Allotments.—At the moment, the Government services are hampered for want of money, and some of them are so poorly equipped with funds that it seems questionable whether their continuance is desirable. In the case of the Fisheries Service, for instance, and the Sericultural Service the major portion of the funds are spent in salaries. The former service costs £1,589 in personal emoluments, and the balance of expenditure is £300 for the maintenance of a launch and £400 for investigations. The grant-in-aid for sericulture is £450, of which £300 is the salary of the expert. Similarly, in the stock-breeding service, salaries account for £3,651, while other expenditure amounts to £2,060, namely :—

	£
Forage	360
Stock-breeding service	1,100
Purchase of stock	600

Budget.—In the estimates for 1930 the total budget for agriculture and forests is £77,054. Of this the total of personal emoluments is £45,009, leaving £32,045 for other expenditure.

Development activities.—From the point of view of the agriculturists, the chief activities of the Agricultural Department, apart from the locust campaign and the eradication of the cattle plague, which have already been mentioned, consist in the maintenance of the Agricultural Experimental Stations at Acre and Beisan, and the Horticultural Experimental Stations at Jerusalem and Jericho. The Beisan station is not fully utilised, owing to stringency in the budget. The Acre Station is an excellently organised institution and is reported to be visited by many interested cultivators. The Horticultural Stations both at Jerusalem and Jericho serve useful purposes, but in the case of the latter financial resources do not permit of full development. The Department maintains a staff of peripatetic instructors. It also issues many leaflets.

The stock-breeding service.—Its stock-breeding service provides pure-bred South Devon bulls for crossing purposes, and has now several bulls of the first cross. Some of these are very popular animals with the fellah cultivators. At the Acre station a number of pure-bred Arab stallions were imported from England in the hope

of improving the local breed of horses. An outbreak of dourine put a stop to these operations. It is questionable whether the decision to import expensive stallions was sound. Where funds are so restricted the interests which should be preferred are those of the most needy, in the case of Palestine the ordinary fellah cultivator, not the larger man, who can keep horses of the pure-bred Arab type.

Poultry husbandry.—One of the most highly successful branches of development throughout Palestine is in poultry husbandry. In all the Jewish villages large flocks of high-grade poultry are kept, chiefly White Leghorns and Rhode Island Reds. The poultry farm attached to the Acre Station of the Department of Agriculture is an outstanding instance of success. It is reported that this farm pays its way and affords a profit to the Department. It is of very great value to the villagers of the neighbourhood. Settings of eggs are sold at a reasonable figure, and each year hundreds of cockerels are distributed. The favourite birds are the White Leghorn and the White Sussex, both of which are easily acclimatised. It may appear that the introduction of an improved breed of poultry is a small matter. In the case of the fellah, however, every piastre is of moment, and the effect of this measure is of real importance.

The importance of the demonstration plot.—There are certain directions in which the Department of Agriculture can be of very special use to the ordinary cultivators. The most important service that can be rendered is education by means of the demonstration plot, where the advantages of improved agricultural methods are brought home to him. It appears that a system of demonstration plots was at one time initiated by the Department, but that it was not successful. The reasons of failure should be considered, for plots of this kind have proved exceedingly useful elsewhere. In a country of small-holdings they are indeed the chief means of bringing the results of improved practice to the notice of the small cultivator. It is a mistake to believe that knowledge filters down in such countries from the estate of the large proprietor. The contrary is the case. The diffusion of practical knowledge of agriculture among small men can best come through demonstration on holdings of the character which they themselves cultivate.

Scientific services.—The scientific side of agriculture is, of course, of immense importance. In Palestine, fortunately, it should be possible to obtain all that is required on that side by the use of existing institutions, and so to avoid duplication. There are competent chemists at the Experimental Station at Tel-Aviv and at the Hebrew University of Jerusalem who are capable of any scientific enquiry that may be necessary for the country. It cannot be questioned that if the Government were prepared to offer to pay for work done or to furnish a grant-in-aid, these institutions would readily undertake any work that the Government may require. Palestine is such a small country that it is particularly inadvisable that institutions of a scientific character should

overlap. Especially is this the case where money is not plentiful. The whole question deserves serious consideration, with a view to using the available funds to the best advantage, if necessary by reducing the number of services to those which do not duplicate services obtainable elsewhere, and by abolishing services for which adequate funds cannot be provided.

The distribution of trees.—The Department of Agriculture has ceased to sell young trees from its nurseries to the cultivators. The reason given is that it is undesirable to compete with private enterprise. Private nurseries are almost entirely Jewish, though there is one well-known German nursery. The decision of the Department in this matter was criticised on many occasions, and the interference in private enterprise is in fact very small, as the fellahin would neither be willing, nor in most cases be able, to pay the price asked by the nurseries for trees. The importance of trees from the national, as well as from the individual point of view is so great that it is desirable to encourage planting by every possible means. So far from refusing the sale of seedlings in order to prevent competition with private enterprise the Department would be well advised to sell these seedlings at a nominal price or even to give them away, if by so doing the area under trees could be increased.

The Forest service.—At present the Forest service is attached to the Department of Agriculture. This seems to be a mistake. It is undesirable to burden the Department of Agriculture with matters other than agriculture proper specially in view of the importance of agricultural development at the present time and the necessity of its extension. The Forest service is developing rapidly. There are now 704,000 dunams of forest reserve, and newly afforested areas are showing good promise.

Jewish plantations.—The great possibilities of afforestation have been established by Jewish activities in this direction. There is a small Jewish village called Motza, close to Jerusalem, where a farmer of the name of Broza has planted an orchard, on what seemed to be sterile and barren rock. The trees and the vines have flourished, and what was a wilderness without vegetation of any kind is now a fine orchard producing a large income for its proprietor. The result is the more praiseworthy in that the planter received no assistance from any Jewish or other sources, but created the property by his own exertions. Another instance of development on the same lines is the orchard planted by the Zionist Organisation at Dilb (Kiryath Anavin). The land on which that orchard has been planted was similar to that of Motza. The trees were not irrigated but they have succeeded wonderfully. A similar instance is to be found in the Jewish suburb of Beth-Hakarem, close to Jerusalem, where a hillside which appeared to be hopelessly bare and arid is now covered with gardens containing

trees of every kind. Everywhere the Jews are planting, and have planted trees, and there is no one of their colonies where this branch of agricultural activity is not in evidence.

B. EDUCATION.

The Jewish schools.—The first essential to any scheme of agricultural development in Palestine lies in primary education. The Jewish population is magnificently provided with educational facilities and nearly 100 per cent. of Jewish children attend Jewish schools. These are maintained by the Jewish authorities with the aid of a small grant from the Government, and it is a matter of common complaint in Jewish circles that this grant is limited to £20,000. It is based on the proportion of Jews to Arabs in the population of the country. The total expenditure on schools maintained by or affiliated with the Department of Education of the Palestine Zionist Executive for the year 1928-29 was £162,500. 227 schools were maintained, with 19,449 pupils.

The State schools.—The education of the Arabs provides a very different picture. In the year 1928-29, the number of elementary schools was 308, of which 259 were in the villages. Of the schools in the towns 29 were girls' schools and in the villages 8. The total number of schools had decreased by four during the year. The number of pupils in the schools was 25,219. Of these 12,539, including 573 girls, attended village schools. The rural Arab population, excluding tribal populations, at mid 1930, was 478,390. It is impossible to determine with accuracy the numbers of children of school-going age which are included in that figure. At the last census of the whole population, 37.1 per cent. were under 15 years of age. It is therefore safe to assume that at least 20 per cent. of the Arab population of the villages consists of children of school age. This would give over 95,000. Of these, as noted above, only 12,539 are taught, or 13.2 per cent.

The reason for this small number does not lie in any reluctance of the Arab to send his children to school. On the contrary, in every village complaints are made on the score of the inadequacy of educational facilities. Everywhere a demand for instruction is found, and that not only on behalf of the boys, but on behalf of the girls also. Far more applications for admission to existing schools are made than can possibly be accepted.

The Budget.—No agricultural development is possible among the Arabs until steps are taken to remedy the present state of affairs. The educational budget for the year 1929 was £144,119, more than £18,000 below the budget of the Jewish organisation for the same year for the same purpose. Of this sum £139,789 were spent, and there was a saving of £4,330—a most unfortunate economy. It is clear that an expenditure very much more important than £140,000 is necessary if the Arabs are to be given a fair chance to improve their standard of life.

The necessity.—The following is extracted from a note furnished by the Director of Education :—

" With a rapidly increasing population, and a growing desire for more education, expansion in size and in the number of schools is not only desirable, but, in the interests of the people, absolutely necessary. The demand, however, has not been met, and the Arab population, not unnaturally, feel resentment against Government, the revenue of which is largely contributed by them, for not giving them what they desire, above all else, whereas the Jewish Agency, with the help of other organisations, has been able to provide almost universal education for Jewish children. The Arabs see in every Jewish colony a well-equipped school with a trained teacher, providing accommodation for every child of school age. They realise that without education they are precluded from social and economic progress Every year a larger number of boys and girls are refused admission to urban schools owing to lack of accommodation. In the rural schools, which at present are mainly confined to boys, more classes are needed and at least 250 villages, each containing a population of 300 or more, are not yet provided with any school. The demand for female education in towns is little less insistent than that for boys, and is increasing in the rural districts."

Its importance to agricultural development.—Until facilities for ordinary primary education are more general than is the case at present the fellahin will not be in a position to benefit generally by any special agricultural education that may be afforded. On the subject of agricultural education the Director of Agriculture has submitted a note, from which the following is extracted :—

" Obstacles to progress in the agricultural education of the Arab cultivator are, in order of importance, insolvency, illiteracy, and absence of instructors of local origin with the necessary qualifications"

" The futility of urging on a bankrupt industry improved practice involving considerable capital outlay is at last being generally admitted. It is to be reported in an authoritative statement within the next few days that from a gross average income of £25 per annum the typical fellah is required to support a family of six, and contribute £8 as interest on unproductive loans Any hope for marked development of agricultural practice lies with the rising generation now being educated in recently established village schools."

" The agricultural school at Tulkarem represents the first institution of its character in Palestine available to the Arabic speaking population It is recognised, however, that the impression which could be ensured by the education of some 40 residential students would be quite inadequate to the demands of the situation. It is consequently proposed to afford all village schoolmasters in rotation a special course of 12 months' duration at the school, for the purpose of ensuring an agricultural bias to primary education in the villages."

Agricultural schools.—The school to which Colonel Sawyer refers in the above extract owes its existence to a bequest by a wealthy Jew. This is a useful commencement, but it should be pointed out that the Arab agricultural population forms more than nine-tenths of the rural population of Palestine, and that this is the only school on which they must depend for their agricultural education. The Jews already have an agricultural school at Mikveh-Israel with

accommodation for 160 students. They also have a school provided by the Kadoorie bequest and they have several agricultural training schools for girls, and a children's village where orphan children are taught agriculture. If the Arab population is to have opportunities of agricultural development on the same scale as the Jew, a score of large agricultural schools would have to be provided.

The village school and agriculture.—The Department of Education has already introduced a system intended to encourage more modern methods in agriculture. It has attached to many of the village schools agricultural plots where practical work is done. It also teaches sericulture, fruit-farming, and bee-keeping. At the present time this movement is hampered by the ignorance of the village teacher in agricultural matters and the whole of this branch of village education is dependent on a single supervisor, himself only partly trained.

Need for additional expenditure.—It is clear that the Government of Palestine must face very considerably increased expenditure on education, both primary and agricultural. As to the former, a plan should be worked out for expansion over a term of years. If the educational budget, at present standing at £150,000, could be increased by £15,000 a year for the next ten years, at the close of that period important progress would have been made towards the solution of the problem of primary education.

It seems desirable that the grant-in-aid to Jewish education should be increased proportionately with the increase in the general education budget of the State. Assuming that the Jewish children of school age bear the same proportion to the total population as is the case with the Arabs, the grant-in-aid from the present year should be increased by £1,500 per annum for the next ten years if a total annual increase of £15,000 in the Educational Budget proves feasible.

Technical education in agriculture.—For technical education in agriculture also a plan should be prepared to cover the next ten years. Its first object should be to provide accommodation for a largely increased number of students at Tulkarem. There is no reason why that school should not provide education for 120 to 150 boys. The present grant-in-aid is £1,000 a year. It would be necessary to increase the grant by at least £1,500 for the increased number of students. But the plan should not be confined to an increase in the accommodation at Tulkarem. It will prove essential to institute similar schools elsewhere, though probably not on the same elaborate scale. The matter is one for very careful examination by the Government.

Agricultural certificated school-masters.—Meanwhile it should be made a condition of employment of schoolmasters in the rural schools that they should be in possession of a certificate from the Tulkarem school, or from some other recognised agricultural school, that they have attended a course in practical agriculture for at

least six months. One year seems to be an unnecessarily long period for that purpose. It would be an advantage if arrangements could be made for training of these teachers at one of the Jewish schools as well as at Tulkarem, for it would be regrettable that the water-tight system should be observed even in agricultural instruction.

In the case of existing schoolmasters, the Educational Department will have to make the best arrangements possible to release them in batches for this training.

Collaboration between Departments of Agriculture and Education.—It is of course essential that the Department of Agriculture and the Department of Education should collaborate closely in order to ensure the success of the arrangements proposed for agricultural education in rural primary schools. There should be no difficulty in such collaboration. The curriculum of the rural school, in so far as it includes agricultural instruction, should be worked out by the two Departments in consultation as also the curriculum for the six months' training period of the village schoolmaster.

C. IRRIGATION.

The existing waste of water.—A most important condition of agricultural development is water for irrigation. On Map No. 5* will be found indicated the more important sources of water supply at present known to exist in the country. As a general rule irrigation water is wasted. This is very obvious in the irrigated areas of the Jordan Valley, the Beisan area, the Wadi-Fara'a and the Jericho area. In each of these areas it is probable that scientific management of the irrigation would save enough water to double the irrigable area from the existing supply.

The Aujha Concession.—It is regrettable that one of the chief sources of irrigation in the country, the Aujha River, has been included in a concession. This concession, originally given with the object of the production of electric power, and subsequently as a purely irrigation concession when it was discovered that the current was not required for power, has as yet not been employed for irrigation on a modern scale. A comparatively small portion of water is pumped by riverain proprietors for the irrigation of their orange groves, but the great mass of the water flows into the sea. A further drawback to the exercise of the Aujha concession by the concessionaires is found in the fact that if its water were to be used generally for irrigation of the plantations of the Maritime Plain, the existing demand for electric power to pump irrigation water from wells in the plantations would be liable to diminution or possibly to cessation. The concession for this power was in the same hands as that for the

* See Note on page 3.

Jordan River, but in 1929 the Palestine Electric Corporation promoted a separate irrigation Company to take over its irrigation rights in the Aujha Concession. This transfer was approved by the Government on condition that an irrigation scheme should be submitted to the Government within a year and that the work must be done on the scheme within a period of two years of its approval, a condition which was accepted by the Company.

In the latter portion of 1929, the Company submitted an irrigation scheme for the lands of Petach Tikvah. This scheme was sent for the examination of the Government technical advisers. It is believed that no report on the scheme has yet been rendered in consequence of the occupation of those advisers on the locust campaign. The irrigation scheme has not yet been commenced.

The irrigation of the Aujha basin is a work of great importance and it is desirable that it should be pushed on, in so far as it lies in the hands of the Administration to forward it. The original concession was given in the year 1922. Eight years have passed and so far nothing has been done. It is desirable that the scheme put forward by the concessionaires last year should be examined and reported upon as soon as that is possible. The sooner irrigation is available for the plain the better.

Nebi Rubin.—In the Maritime Plain there is an area claimed as Waqf known as Nebi Rubin, which is now being drained, and arrangements made for the irrigation by the Supreme Moslem Council. The area capable of irrigation is some 5,000 dunams. The plan for this work of drainage and irrigation is stated to have been prepared by an engineer of the Rockefeller Foundation. The work is being carried out satisfactorily. This will provide a useful area for the Arab tenants of the Waqf.

The Acre Plain.—The Acre Plain is said to be entirely irrigable, either from the Kurdani Spring (marked No. 2 on Map No. 5 attached to this Report) or from subterranean water at a reasonable depth. A large portion of this Plain is in the hands of Jewish organisations. As yet the practice of irrigation in this area is not general.

The Huleh Area.—The Huleh area is all irrigable. The property might be a very valuable one and it is regrettable that the area owned by the Government therein has passed almost in its entirety out of the hands of the Government into the hands of a concessionaire, Selim Bey Salam of Beyrouth. The concession was originally made by the Turkish Government before the War, but was renewed by the Government of Palestine. The concessionaire at one time desired to get rid of the concession and has been on various occasions in treaty with the Zionist Organisation and subsequently with the Walbrook Trust. The negotiations came to nothing in both cases, and the concession still exists. The concessionaire is about to commence operations with the object of draining a portion

of the marsh by deepening the bed of the Jordan and so lowering the water level of the surface of the lake.

In Huleh, the extent of a holding necessary to support an agricultural family would not be greater than 40 dunams, of which half irrigated. There will thus be a large reserve of land in that area, when it is properly developed. The question of the drainage of the Lake was considered by Mr. Henriques and was reported upon in the volume of Reports of the Experts at p. 400. His estimate is that to drain the Lake by blasting out the gorge through which the Jordan river flows after leaving the Lake, would cost over £1,000,000, to include deep ploughing of the reclaimed area, drainage as might be necessary, and arrangements for irrigation.

If the concession falls in, as is possible, it seems essential that the Government should retain the proprietary right in the area, for development purposes. The estimate of Mr. Henriques is that of an expert, but was not founded on the preparation of any detailed plans. If the Huleh area should revert to the Government, a technical study should be made in order to ascertain the actual cost of the suggested drainage.

The Beisan Area.—Another area that has unfortunately passed from the ownership of the Government consists of the lands of Beisan, Semakh and Ghor-ul-Fara'a, which are the subject of the agreement concluded in November, 1921, and known as the Ghor Mudawwara Agreement. It was probably politically desirable that the lands covered by this Agreement should be settled with the Arab tenants who had undoubtedly enjoyed the use of the tract in the time of the Ottoman Government. At the same time the result of the Agreement, and specially of the modification of the Agreement made in September, 1928, published in the Official Gazette of 16th September of that year have taken from the Government the control of a large area of fertile land, eminently suitable to development and for which there is ample water available for irrigation.

The Beisan Agreement.—By the original Agreement property was created in favour of the existing cultivators in respect of the lands cultivated by them (Art. 1). Article 5 provided for such areas of Metruké land as might be "necessary for the requirements of the village". A minimum holding of 150 dunams per family was fixed by Article 8. In Article 9 provision was made for the constitution of tribal areas, as also for the transfer of areas to families which have not hitherto cultivated, if the tribe to which they belong has generally lived and cultivated on the West side of Jordan. Grazing areas for tribes were permitted to the extent determined by the Department of Agriculture. In Article 16 is laid down that there should be no disposition of the land "except by way of mortgage to the Government or of succession . . . until the whole transfer

price (badal tatweeb) has been paid ". This last was a very wise provision.

The revision of the Agreement carried through in 1928 modified this last condition. The following is the relevant extract from the statement of policy embodying the changes in the Agreement :—

" 8. Government are prepared under certain conditions to waive the requirement that the whole transfer price must be paid before the transferee has freedom to dispose of his surplus land.

" The two principal conditions which attach to this modification of Clause 16 are:

" (1) that the surplus land be transferred to persons approved by Government and having as their object the promotion of close settlement and the intensive cultivation of the land; and

" (2) that in every case shall the transferee retain such extent of land in the area to which the Ghor Mudawwara Agreement of 1921 applies or elsewhere as will in the opinion of the Government suffice for the maintenance of himself and his family."

At the time of the original agreement clearly no grant of "surplus land" to any individual was contemplated.

The whole of the Beisan lands have been distributed, and large areas have already been sold. Further large areas are in the market. The grant of the lands has led to land speculation on a considerable scale. The custom is that the vendor transfers to the vendee the liability for the price of the land still owing to the Government and in addition takes from him a sum varying from three to four pounds a dunam for land in the Jordan Valley. These proceedings invalidate the argument which was used to support the original agreement. It was made in order to provide the Arabs with a holding sufficient to maintain a decent standard of life, not to provide them with areas of land with which to speculate.

As to the irrigation of Beisan it is stated that there is ample water to irrigate all the cultivable area if the water were properly used. At present it is used exceedingly uneconomically. Under the powers which the Government propose to take under the Draft Irrigation Ordinance now under consideration, it will be possible so to regulate the use of the water that it will serve a much larger area than is the case at present.

There were complaints from the Arabs that the sources of the water supply had passed into Jewish hands and that there was consequent difficulty in obtaining the water necessary for irrigation. It is true that certain of the sources of irrigation water in this area lie in lands now held by the Jews. If the Draft Irrigation Ordinance finally becomes law, all difficulty on that score can be regulated.

The Jordan Valley.—In Chapter I, reference is made to areas in the Jordan Valley. A comparison of the views of Dr. Strahorn, expressed in the Report of the Experts at pp. 203 to 206, with the views expressed by the members of the Committee who

examined the Lower Jordan Valley this year for the purposes of the present enquiry, shows that there is room for wide difference of opinion. The Irrigation Officer and the Government Geologist are convinced of the possibility of cultivation of considerable areas in that valley if water proves available. The Committee of which they were members reported the possibility of the irrigation of 100,000 dunams in addition to that already irrigated, with the water already available, if that water is economically used. It is well within the bounds of possibility, both that arrangements could be made which will provide a larger supply of water than that at present in sight, and that a larger area of land may prove to be cultivable than is at present recognised and included in the cultivable area.

Other possibilities.—The remarks recorded above have reference only to certain of the known sources of irrigation. It is urgently necessary that attempts should be made to discover further sources. Both in the course of the settlement of the refugees in Greece, and more recently in Cyprus, steps were taken to determine the subterranean supply. In both countries these enquiries are believed to have resulted in success. In Macedonia, in Thrace, and in Old Greece, an artesian supply was discovered which has resulted in the sinking of hundreds of wells which give a copious yield of water. It is well possible that serious attempts might result in a similar discovery in Palestine. As has already been remarked, the discovery of an artesian supply of water in the Beersheba region would revolutionise the possibilities of colonisation in Palestine. It is worth while to devote a considerable sum to a hydrographic survey of Palestine in the hope of locating the water-table both of spring water and of artesian water, if the latter exists. A study of all existing sources of irrigation should also be undertaken, and plans prepared for scientific and economic use of the water in question.

The Draft Irrigation Ordinance.—In Appendix 19 will be found a resumé of the Draft Irrigation Ordinance. Legislation to empower the Government to regulate the use of water for irrigation should be enacted as rapidly as possible. It is a question for the Government whether the powers contained in the Draft Ordinance for control over the sinking of wells is necessary. There was at one time a fear that the multiplication of wells in the Maritime Plain had caused a fall in the water-table in that area. The matter was examined by an expert Committee which came to the conclusion that the fear was not well founded. The water-table had fallen in a certain region, but there remained an ample supply at the deeper level.

Constitution of a separate service.—By an unusual arrangement the Irrigation Service is also placed under the control of the Department of Agriculture. This arrangement is not satisfactory.

In fact, it has resulted in the Irrigation Officer being employed, and necessarily employed, on urgent duties not connected with irrigation. For instance, during a considerable part of the present year he was engaged on a locust campaign. This was doubtless a work of great urgency, but while he was thus employed his regular work as Irrigation Officer was in abeyance. That work is of the first importance in view of the backward state of irrigation in Palestine. It is desirable that the Irrigation Service should be detached from the Department of Agriculture and constituted a separate service.

D. CO-OPERATION.

The Jewish movement. Information available.—A notable feature in connection with Jewish immigration and settlement is the rapid growth of co-operation. The fact may be due to the influence of the countries whence the immigrants have come, for the movement is powerful both in Poland and in Russia, the countries of origin of 66 per cent. of the Jewish settlers. The movement is confined to the Jews. There is no Arab Co-operative Society at work in Palestine.

There are 249 co-operative societies registered, but of them only 173 are known to be working. The live societies are classified as follows :—

Agricultural societies	...	...	...	...	...	39
Credit societies	...	...	...	...	...	52
Industrial producers	...	...	...	...	...	27
Land purchase and building	...	...	...	...	...	34
Kvotzoth	...	...	...	...	...	14
Miscellaneous	...	...	...	...	...	7

Data have been collected for 134 of these societies as at the end of May, 1930, and have been submitted by Mr. Harry Viteles, the General Manager of the Central Bank of Co-operative Institutions in Palestine.

These 134 Jewish co-operatives had at that date 33,436 members, and share capital, reserves and other owned capital amounting to £334,827. In addition to this sum, they have in members' deposits and savings £711,445. At the same time the total indebtedness to banks and other creditors was £294,411. In fact, the co-operative societies work, to a large extent, on the money provided by their members, a position highly satisfactory.

Rates of interest on deposits and loans.—High rates of interest are paid both on deposits and on loans from Banks, and the Societies charge their members 10 to 13 per cent. on the loans and advances made to them. This rate of interest is not only high in itself, but is an indication of the still higher rates which are charged by the moneylender. If the general rate of interest charged elsewhere for accommodation of the kind furnished by the Societies

were not excessive, and it is known to be excessive, it would clearly not be to the advantage of the small man in the town and in the village to resort to a co-operative which demands 10 to 13 per cent. The fact is also an indication of the uselessness of the legal limit of 9 per cent.

On this question of the rate of interest Mr. Viteles remarks in his note :—

“ This interest is out of proportion to the earning capacity of the population—particularly of the farmers—served by the co-operatives.”

Activities of Co-operative Societies.—The Agricultural societies are of many types and serve every purpose of the settler. Through them he makes his purchases and sells his products, through them he insures his cattle, through them again he receives advances on his crops. Of these societies there are some which are of outstanding merit. The “ Pardess ” Co-operative Society of Orange Growers shipped during the last season over 470,000 cases of oranges belonging to its members, about 40 per cent. of the total orange crop of Jewish growers. It has just opened a co-operative packing house with a capacity of 60,000 cases, equipped with the latest grading and packing machinery. This society also interests itself in the development of existing markets and the discovery of new avenues of disposal. Of the wine produced in Palestine, 90 per cent. is manufactured and sold by a co-operative society of wine-growers. “ Hamashbir ” is a society established and managed by the Jewish Federation of Labour. It serves as a Co-operative Wholesale Society and the central organ of the four consumers’ (distributive) societies already in existence. More of the latter type are contemplated in rural localities. The co-operative marketing of milk and dairy products, eggs and poultry and vegetables, formerly constituting a branch of the activities of “ Hamashbir,” have been taken over by three autonomous co-operatives functioning in Jerusalem, Tel-Aviv and Haifa respectively, under the name “ Thnuva.” The produce sold by these three bodies during the year ending 30th September exceeded in value the sum of £96,000, and is rapidly increasing. Another co-operative connected with the Labour Federation is “ Yakhin,” which undertakes the preparation, planting and maintenance of agricultural holdings, particularly of citrus groves. This work is done both for residents in the country and for prospective settlers. The society commenced in the middle of 1928, and had completed work of a value of £49,000 before the close of 1929. The contracts on hand on 31st May, 1930, were for £32,000.

Jewish Co-operative Movement: Co-operative Industrial Producers’ Societies.—The Labour Federation has organised a special Department to promote and to supervise Co-operative Industrial Producers’ Societies. At the end of 1928 there were 50 such societies with a total of 326 members, an average of less than 7 per

society. At the end of May, 1930, there were 41 with a membership of 507, more than 12 per society. In addition to the members, these societies employed 235 hired workers and apprentices. The most remarkable of the societies of this type are the transport societies, in which the members transfer to the society the property in their motor vehicles and are credited with the capital value as their share capital. It is said that these societies command most of the internal traction of the city of Jerusalem and town of Tel-Aviv and a large proportion of the commercial transport between the two places.

Land-purchasing Societies.—A considerable number of the more important co-operative societies are those which have been organised for the purchase of land both in rural and in urban areas. In the case of the former type of transaction, the land is frequently bought and developed for members not yet resident in Palestine, but who hope to immigrate later. The total present value of the land, improvements, buildings, etc., the property of members of these societies, is reported to be nearly one and a-half million pounds.

Jewish Co-operative Movement: Membership of Societies.—It is clear that the co-operative movement has not only been successfully launched among the Jewish population, but has already become a highly important economic factor in its daily life. On the whole the societies are extremely well-managed. Some of the Credit Societies appear to be too large for efficient control by the members themselves. There is one with over 3,000 members, there are eight with membership in excess of 1,000. In other cases there is a tendency in the opposite direction, and new members are not welcomed. But there can be no doubt that the co-operative societies are doing magnificent work and are a valuable asset both to the villages and to the residents in the towns.

Necessity for extension to Arab population.—As has been pointed out, the whole of the co-operative organisation in Palestine is Jewish. It is very much to be regretted that no efforts have as yet been made to popularise the co-operative idea among the Arab population. The need is desperately urgent. The fellah population is so tightly bound in debt that no credit whatever is available to enable that development of agriculture which is so essential for progress.

The view is commonly expressed that the Arab will not co-operate. It is said that one attempt was made to form a co-operative society of the tobacco growers, but that the society failed owing to the disloyalty of its members. The great probability is that the cause of failure might be found either in ignorance of the principles of co-operation or in the constitution of the society. The Arab is ignorant, but he is at the same time highly intelligent and hard-working. That he can learn is evident from an inspection of the

Arab villages in proximity to the German and to the older Jewish (P.I.C.A.) colonies. That he is ready for practical co-operation is patent from instances which have been observed recently. One case was noticed in a village close to the German colony of Wilhelma. There three fellahin desired to have the use of a tractor and tackle for deep ploughing. No one of the three could afford the expenses of transport. The three joined together, hired the outfit, had all three holdings ploughed and shared the expense. In another village, near Ramleh, a case was observed in which five cultivators pooled their teams in order that power might be available for deep ploughing. Those cases, though perhaps of little intrinsic importance, indicate that the co-operative sense is not absent in the Arab cultivator.

There is nothing but co-operation that will save him from his present depression. He cannot hope ever to escape from the burden of debt unless cheaper credit is made available. Only by co-operation can that object be obtained. It is well that Mr. C. F. Strickland is making an enquiry into the methods by which co-operation may be made available for the fellahin of Palestine.

Treatment of existing debts.—One of the most difficult of questions in approaching the problem of the foundation of Arab Co-operative Societies, is the policy to be followed in respect of existing debts. As has been noted, these are everywhere exceedingly heavy, and the prospect of agricultural development of the Arab holdings, a development which will be dependent on the facility for obtaining working capital at a reasonable price, is at the moment rendered impossible. The Arab is crippled by debt. His chance of advance is hampered by debt. How is he to be released from his burden as a preliminary to improving his chances of advance?

Mr. Strickland, who was in Palestine at the time of this enquiry, and was himself examining the possibilities of co-operation among the Arab population, favoured me with a note on the clearance of old debts by co-operative societies. His considered opinion is hostile to a policy of loans at a low rate of interest in order to enable the peasant to pay off existing debts at high rates of interest. In the course of his memorandum he writes:—

“ . . . My own experience during twenty years of co-operation has been everywhere the same. An indebted and usually illiterate peasant has not the strength of character to refrain from further borrowing from money-lenders, if he is suddenly released from debt. He borrows again and all the good work is undone. After trying several methods I found the best way in a rural Society of Credit to be the limitation of loans in the earlier years to such amounts as would meet the agricultural and ordinary needs of the members without attempting to repay the old debt. At the end of three years, if it was found that the members had broken off all connection with their old source of credit, a list of the debts of each member was drawn up, and a special loan for the repayment of the total amount made to a number of selected persons, but not to all the members at the same moment. Thus by clearing a

few members in each year by a special loan the Society was kept in a constant state of struggle, which, however unpleasant, is extremely beneficial to the co-operative character of the persons concerned."

He adds that the Jewish Credit Societies apply the same policy of refusal at once to clear the debts of a new member.

At a later stage of the memorandum, Mr. Strickland writes :

" I do not consider that peasants who have become accustomed to a condition of permanent indebtedness can be taught to help themselves, except by an unpleasant and somewhat long course of discipline. Therefore they must for two or three years prove their loyalty to their Society by dealing in small sums. This process forms their character and makes them such men as can be trusted with large sums. They must also have the courage to defy the moneylender and boldly invite him to go to court. When he does so the Society can help them, but a total payment of their debt at an early date is too strong a medicine for them to digest, while a partial payment of a moneylender's debt is a mere waste of money. When crediting it he charges the full rate of interest, but when coming to a final settlement he will agree to a lower rate."

It is exceedingly satisfactory that this question of credit for the fellah is at the moment the subject of enquiry by an expert in co-operation, and that there is justification for the hope that the best steps possible will be taken to improve the prospects of this important class of agriculturists in financing their agricultural operations. Nothing is more important from the point of view of the agricultural development of the country.

Desirability of joint action between Jews and Arabs.—In view of the great desirability of a rapprochement between the Arab and the Jewish population of Palestine, it would be of advantage if the Jewish co-operative societies were to encourage Arab membership. In the case of "Pardess," for example, it would be to the advantage of the Jewish orange growers themselves to enlist the Arab growers in their Society. The price of oranges abroad is said to be based on the price of the cases of least merit. The higher the quality of the inferior product, the better for those who ship oranges of good quality, well-graded and well packed. If "Pardess" were to lay itself out to serve the Arab groves as well as the Jewish, it would obtain its reward in a general rise in the standard of the cases shipped from Palestine. And this is only one of the directions in which enlistment of Arab cultivators would actually strengthen the co-operatives of the Jews. In addition, naturally, the political difference would tend to become less acute than is at present the case. The more the Jew can identify himself with the economic interests of the Arab, the better for the general peace of the country. Nothing is more fatal for the peace of Palestine than emphasis on the difference rather than on the common interests of these two constituents of the population.

CHAPTER VIII.

Agricultural Produce.

(a) CITRUS CULTIVATION.

Origin of orange cultivation.—The cultivation of the orange, introduced by the Arabs before the commencement of Jewish settlement, has developed to a very great extent in consequence of that settlement. There is no doubt that the pitch of perfection to which the technique of plantation and cultivation of the orange and grapefruit have been brought in Palestine is due to the scientific methods of the Jewish agriculturist.

Area available.—In the Reports of the Experts at page 199 *et seq* there is an interesting statement of the opinion of Dr. Strahorn as to the areas in which citrus cultivation is in his opinion possible. His deduction on this subject is to be found on Page 201 and is recorded in the following words:—" . . . It is felt that the absolute area of irrigated plantations in Palestine will not exceed 300,000 dunams." This is a very important pronouncement by an expert of world-wide reputation. This question is discussed in the Memorandum submitted during the course of the present enquiry. The experts of the Jewish Agency do not agree with the opinion thus expressed by Dr. Strahorn; on the contrary, they consider that there are 595,000 dunams in the Maritime Plain which are irrigable and of the light soil usually found suitable for orange cultivation. Including the irrigable area of the Beersheba series of soils, which they take as 503,347, and deducting an assumed area for "nasaz," they conclude that an area of 500,000 dunams of the Maritime Plain is suitable for citrus cultivation. "Nasaz" is thus described by Dr. Strahorn:

"The term 'nasaz' indicates a sub-soil structure where, due to some peculiarity, the horizon is but very slowly pervious to moisture, and the structure is sufficiently dense to cause most roots of plants to turn and follow a horizontal direction. In boring the soil-auger encounters a definite resistance where the 'nasaz' horizon is penetrated. Mechanical analyses seldom show a texture heavier than a sticky loam or a sandy loam, and fine sandy loam textures seem quite prevalent As a rule, 'nasaz' is non-calcareous"

It is, of course, impossible to determine the "nasaz" area by inspection of the surface soil. That area will only be determined when a soil survey, which includes an examination of the sub-soil, is completed.

All that can safely be said on the subject of the irrigable light soil fit for orange cultivation in the Maritime Plain is that there appears to be an area of at least 200,000 dunams still available and undeveloped, and that this area would provide for 10,000 holdings, if the price of oranges in the European market does not fall

materially. In addition there is an area, estimated by the experts of the Jewish Agency at 300,000 dunams, which may prove on examination to be suitable for citrus. Should this anticipation prove correct, and the largely increased area not result in a fall in the price of oranges, this area would provide for another 15,000 families.

Area under citrus cultivation.—Details of the areas now under orange cultivation and of export and prices are given in Appendix 20. It is generally assumed that this fruit may be successfully cultivated in the whole of the soil suitable to its growth. A limiting factor may prove to be that of water for irrigation, in certain regions. Hitherto water has been found at reasonable depth, ranging from 9 metres to 53 metres (Report of the Experts, p. 26). In general tube wells are used, with filters, and the pumps are worked either with oil engines or by electric power obtained from the Palestine Electric Corporation. Last year there were symptoms which seemed to indicate that the water-table was receding in depth. There were also complaints that salt water had penetrated into certain of the wells. An enquiry was held into the matter, and it was found that in the region where orange cultivation had been longest in vogue, there had in fact been a fall of about 4 metres in the level of the springs, but that the supply at this lower depth was ample. It was also considered that the fall was possibly due to temporary conditions, following as it did two years of rainfall below the average. As to the salt, this was found in two wells only. No explanation of the phenomenon could be suggested, as these two wells were in close proximity to other wells in which the water was sweet.

Future of the orange trade.—It is unsafe to prophesy on the subject of the future of the orange trade. Opinions among experts in Palestine vary. On the whole they are optimistic. The chief orange growers feel little doubt that a crop of ten or twelve million cases will be absorbed by the European market. They realise that the possibility of that absorption will depend in large measure on the method in which the oranges are marketed. At the present time this leaves much to be desired. The Jewish growers are taking steps to ensure by co-operation that the standard of the fruit despatched from their groves is uniform and that grading and packing are satisfactory. It is regrettable that the Arab growers are not yet convinced of the necessity of the adoption of similar measures.

The question of the future of the orange trade is one of very great importance for the development of agricultural Palestine. In the main, it is the development of this particular culture which will justify the belief that the country can support a much larger population than it contains at present. If the market can absorb, within the next ten or twelve years, some 30 million cases of

oranges, where to-day it is absorbing less than 3 million, the 200,000 dunams, which is the minimum area still awaiting development in the Maritime Plain, will support a population of at least ten thousand families of orange growers, with the ancillary population connected with the business, on an area which to-day is supporting probably less than 2,000 families. Should the suitable area prove to be larger than 200,000 dunams, as is reported by the experts recently employed by the Jewish Agency, and whose opinions differ from that of Dr. Strahorn, the additional population supportable will be increased *pro tanto*.

On the other hand, if development goes on at the present pace, and the market proves unable to digest the enormous increase in supply, not only will disaster overtake the new families who may be settled in the Maritime Plain in the future, but the large population now settled in that region will share in the disaster. It is the path of wisdom to proceed with the policy of orange plantation without undue precipitancy and to await the result of the work of the past four years before embarking on a more ambitious scheme of the same kind.

(b) THE GRAPE FRUIT.

Of orange groves now planted, one-tenth of the area is habitually put under grape-fruit. For this the market is satisfactory, and is expanding. The Palestinian grape-fruit is of very fine quality, and there is in this direction every probability of a large and increasing trade.

An additional advantage in the cultivation of the grape-fruit lies in the fact that it flourishes in soils much too heavy to permit of successful cultivation of the orange, and there is room in the Jordan Valley for considerable extension of the area under this crop. The drawback to the grape-fruit is its quality as eminently a luxury fruit. This is even more the case than with the Jaffa orange. The grape-fruit requires preparation before it can be eaten. It also requires sugar. The Jaffa orange is easily eaten, without preparation and also without sugar. It cannot therefore be expected that the area ultimately planted with grape-fruit will ever compare with the area under oranges, but, nevertheless, it will in the end be sufficiently considerable to warrant a place in a development programme.

(c) THE BANANA.

Area under cultivation.

Careful enquiry has established that the area under the banana in Palestine in 1930 amounts to 2,368 dunams. The fruit can be grown in the whole of the Jordan Valley where the soil is fertile. It is also grown in a few areas outside the Jordan Valley, but with more difficulty.

Cost of production and yield.

The cost of production is £37 a dunam up to the bearing stage and thereafter £18 per annum for maintenance. At 15 mils a kilo, with a yield of 2,000 kilos from a dunam in full bearing, the gross annual income is £30. This year the price is very low, and the growers have found difficulty in disposing of their fruit.

Marketing possibilities.

The Palestine banana is a fruit of excellent quality in consumption, though its appearance leaves much to be desired. The whole question of cultivation and marketing was discussed at length by Mr. George M. Odlum, in a report to the Palestine Economic Corporation in 1927. This has been published, by the courtesy of the Corporation, as a leaflet of the Department of Agriculture in Palestine (No. 11). The general result at which Mr. Odlum arrives does not encourage the hope that the possibility of creating a market in the banana will afford scope for widespread extension of cultivation. He sees "considerable possibilities for a banana industry of moderate dimensions in Palestine." The difficulty is largely one of marketing. The Palestine fruit could not compete with the Canary and West Indian bananas in Western Europe. It is bound to be restricted to local markets and the undeveloped markets of Eastern Europe. The possibility of expansion in these latter markets should however be explored, and meanwhile the methods of packing and transporting the fruit improved. It is a matter of great regret that the nematode (Egyptian eelworm) (from which Mr. Odlum recorded that Palestine was free), has now appeared and is found spread generally among the banana groves of the country.

(d) MELONS.

Exports to Egypt and Syria.

There is a very large trade in water-melons with Egypt and a smaller, but still considerable, trade with Syria. The former, in 1929, amounted to 49,000 tons, the latter in 1928 to 6,800. In both directions the trade has been affected by fiscal measures. In Egypt an import duty of 500 milliemes per ton was imposed last year. In Syria the town of Damascus has imposed an octroi duty on melons, which is of course of a general nature, affecting Syrian as well as Palestinian melons, but which at the same time tends to reduce the amount exported from Palestine.

Adverse effect on export of imposts in Egypt and Syria.

Complaint on the score of these imposts was general, and it was suggested that the Syrian case should be taken up with the French Government and that in the Egyptian case the Palestine

Government should retaliate by penalizing imports from that country. Petitions on the subject were submitted to the Palestine Government. The District Commissioner of Haifa, in reporting on the Egyptian question, gave figures which establish that the cost of transport of a ten-ton truck, including transport to the railway, cost of loading, demurrage fee, unloading and commission, and customs dues, totalled £P25.005. The average wholesale prices in Egypt range from £20 to £25 per ten-ton truck, and there is consequently little or no profit to the producer in Palestine. He was of the opinion that the new tariff will seriously affect the trade in melons.

The matter is one for negotiation with the Egyptian Government. The balance of trade is so seriously adverse to Palestine that every possible effort should be made to encourage its exports. Of these the melon holds quite an important place.

The Syrian question is more difficult. No preference is being accorded to Syrian melons. Doubtless the Damascus Municipality requires the additional income which the octroi on melons will afford. It does not seem possible to suggest that Palestine melons should have a preference over the local product in the Damascus market, and probably no steps can usefully be taken in the matter.

(e) ALMONDS.

Production and Export figures.

Appendix 21 gives the figures of production and of export from three sources. It is unsatisfactory that they differ so widely, and a remarkable fact indicated by those figures is that over a period of seven years the total export of almonds has been far in excess of the total production. No explanation of this fact can be offered, unless it can be attributed to under-estimation of the crop for purposes of assessment of tithe.

Area under Almond cultivation.

The most recent enquiry into the area under almonds was made in the early months of 1927. It indicated a total area under this tree of 27,776 dunams, of which 21,175 were in Jewish colonies. The tree is easy to cultivate and flourishes on land which is unsuitable for plantation of any other kind. It gives a return per dunam six times that of cereal crops. It is therefore a useful culture for the development of poor soil.

Replacement of Almonds by Oranges.

The area under almonds has been affected by the popularity of the orange. Even before the enquiry in 1927 a considerable area of almond groves had been uprooted in order to make room

for oranges, and in certain cases for grapes. In the report of the Department of Agriculture for 1925 it was already recorded that :

"Licences have been issued in considerable number for the felling of almond trees affected with gummosis, or borer Almonds are giving way to apricots and figs which, in improved varieties and properly dried, command ready local sales at very favourable prices"

Since that time the cultivation of the orange has advanced with great rapidity, and wherever the land is suitable there is a tendency for the orange to replace the almond.

Pests.

In the heavier soils the borer has done very serious damage, but in the poorer soils the almond groves are frequently unaffected by this pest. The same is the case with gummosis.

Markets.

In 1929 a consignment of almonds was forwarded to England and handled by the Empire Marketing Board. The report was not very encouraging, but in the issues of the "Grocer & Oil Trade Review" of 11th August and 15th September of that year Jordan almonds were quoted at the highest price in the London market. On the former date the best Jordans sold for more than the best Valencias.

The chief markets are in Egypt and Damascus, in both of which centres large quantities are imported.

There is no doubt that at recent prices almond cultivation has been a paying proposition, and in view of the suitability of the tree to the poorer soils, it will doubtless take its place in any general scheme of agricultural development for Palestine.

(f) GRAPES.

Exports of Wine.

Table grapes and grapes for wine are both cultivated in considerable areas in Palestine. But both in the case of wine manufactured in the country and in the case of grapes for the table, the export trade has suffered a severe and continued set-back during the past seven years. In 1922 over 2,700,000 litres of wine were exported of a declared value of £58,821. In 1927 the corresponding figures are, quantity slightly in excess of 900,000 litres, value £21,686.

Exports of Table Grapes.

In 1922, 1,334 tons of table grapes were exported. In 1928 the figure had fallen to 246 tons.

Competition in the markets.

In the case both of wine and of table grapes the most active market is Egypt. During the years 1922 to 1927 the export to Egypt fell from 1,175,000 litres to 564,000. The reason did not lie in a general reduction of imports of wine to Egypt; on the contrary that import shows a large increase. Wines of the Palestinian type are manufactured also in Cyprus and in Greece, and it is the increase of the export from these two sources which has replaced the loss in imports from Palestine. To quote from an article in the Bulletin of the Palestine Economic Society, of October, 1928. written by Mr. Harry Viteles : —

“ Palestine is losing the wine markets in Egypt, Syria, and the United Kingdom, primarily because it appears to be unable to compete with the other wine-producing countries ”

Still more evident is the successful competition of Cyprus and Greece (with Crete) in the matter of table grapes. Since 1922 the import of table grapes from Cyprus to Egypt has increased from 261 tons to 1,338 tons in 1927; that from Greece and Crete from 3,141 tons to 5,068 tons.

Trial consignments to London.

A trial consignment of table grapes was on two occasions sent to London and was dealt with on each occasion by the Empire Marketing Board. The reports were not very favourable, but they indicated that given better methods of harvesting the fruit, most of which arrived in a condition over-ripe, there was a prospect of a market for certain of the varieties submitted, specially the Salti.

Complaints against Excise Duty and Licence Fees.

In the course of this enquiry a representation was made by the Co-operative Society of Vine-Growers of Richon-le-Zion and Zichron-Jacob Cellars on the subject of the very heavy recent increases in the licence fees for manufacture and in the Excise duty on intoxicating liquors. From this representation the following is extracted :—

“ Licence Fees: As a matter of fact, up to 1925 we have paid £P.5 per annum. By successive additions the Licence Fees have been increased to the amount of £P.2,250 for the current year; £P.1,600 for the manufacture of wine and £P.650 for the manufacture of alcohol and other spirits.

“ We do pay Licence Fees for manufacture of alcohol that are 15 times as big as the Licence Fees existing now in England, and with regard to Licence for manufacture of wine, we don't know any country where such Licence Fee should exist, meanwhile we are paying a little less than one mil per litre, making £P.1,600.

“ Should the Government continue to impose the Licence Fees to the actual level, it would practically mean taking from the viticulturist £P.0.250 per kantar of grapes for the licence only.

"It is indirectly a tax imposed on the viticulturists, and since the average crop of a dunam is two kantars of raisins, this tax will be to £P.0.500 per dunam. The question is if the viticulturist should pay so heavy a tax in addition to the other land taxes as Osher and Werko, and if a land product should be so heavily taxed . . ."

It is true that the cultivator of grapes pays the tithe and the Werko as stated, and that the increase in the Licence Fees does in effect impose an additional tax on him, as it is impossible for the manufacturer to increase the price of his product to the consumer. This is a question which deserves careful reconsideration in view of the depressed condition of all agricultural industry at the present time.

A similar complaint was made by the Salesian Fathers in respect of the manufacture of wine at their Farm School at Beit Jemal.

The Excise Duty was first imposed by the Intoxicating Liquor Ordinance of 1927, and amounted to 3 mils per litre of wine not exceeding 15° of alcohol, and six mils per litre exceeding 15° but not exceeding 25°. These duties were doubled with effect from 1st April, 1930.

(g) TOBACCO.

Extent of the Tobacco Trade.

There is no reason why this country should not produce large amounts of high-class tobacco. At the present time, the amount produced is of poor quality and until 1929 has been insufficient to meet the demand for home consumption. The following statement shows for the past three years the amount produced, the amount consumed locally, and the amount imported :—

—				1927.	1928.	1929.
				kgs.	kgs.	kgs.
Crop—						
Tobacco	...	...	...	495,000	334,600	1,057,300
Tombac	...	...	...	52,000	7,400	10,700
Disposal of Crop—						
Tobacco to factories	...	...	...	446,000	615,000	476,000
Exported	...	...	...	197,000	15,000	22,000
Imported—						
Tobacco	...	...	...	125,000	123,000	124,000
Tombac	...	...	...	74,000	70,000	100,000
Output of Local Factories—						
Cigarettes	...	...	...	401,815	493,720	531,887
Tobacco	...	...	...	23,844	16,167	20,108
Tombac	...	...	...	87,714	83,919	100,127
Snuff	...	...	...	64	57	1,210
Total output	...	...	...	513,437	593,863	653,332

Local Leaf.

Attempts have been made by the cigarette manufacturers to induce the cultivators to produce in this country the amount of tobacco of a higher class which is necessary for the manufacture of cigarettes of better quality. These attempts have not been successful. The local cultivator prefers a tobacco which gives a large yield. The seed of the better grade of plant is smaller and lighter than that of the coarser tobacco, and for this reason alone is unacceptable. In addition, the cultivator cannot realise that a smaller crop of the finer leaf is more valuable than a heavier crop of the coarser kinds.

Necessity for instruction in improvement of methods.

This prejudice might perhaps be overcome, but there is an additional difficulty in that the finer tobacco requires manipulation of a special kind, with which the Palestinian cultivator is not familiar. He does not know how to prepare his tobacco for the market, nor does he know the method of packing. Both of these difficulties are easily overcome. It is a question of education, and an expert from Cyprus or Greece could readily teach the cultivator. The Arab cultivator is intelligent, and, if taught, would find no difficulty in learning the methods of those countries.

One of the tobacco manufacturing firms advanced £20,000 to the tobacco growers in the course of last year. The result was entirely satisfactory, and the money has been repaid practically in full.

Complaints in regard to the Tobacco Ordinance.

There were complaints of two different kinds against the administration of the Tobacco Ordinance. On the part of the cigarette merchants it is alleged that smuggling is rife, especially after the disturbances of August last, and it was urged that much more severe measures are required on the part of the authorities in order to combat that evil. On the other side there were frequent complaints on the part of the fellahin that the Tobacco Ordinance is not only harsh in its terms, but is, in addition, administered in a cruel manner.

Minimum Area of Two Dunams.

There are certain provisions of the Ordinance which are special subjects of complaint. It is, for instance, argued that there is no good reason why the minimum area of cultivation should be two dunams. On the face of it the complaint is well founded. The reason for the provision is given in the following extract from a letter of the Director of Customs, Excise and Trade:—

“ It is desirable that tobacco shall only be grown on a commercial scale and if it is assumed that 50 kilograms is the average crop

of a dunam two dunams produce 100 kilograms or five bales of 20 kilograms each If you refer to Section 10 of the Tobacco Ordinance you will find that no quantity of less than 20 kilograms of unmanufactured tobacco may be sold at any one time by a grower to a dealer or manufacturer, and it was found that people who grow small areas in most cases were planting for their own consumption or illegal sale and small areas are very difficult to control. I have taken the liberal view of the two dunams so that if a fellah has two pieces of land within sight of each other but not actually touching, I count them as one for the purposes of the Law even if the total of each is less than two dunams. The interests of the tobacco manufacturers are those of the Department in this matter and they are always consulted when any change is made in the Ordinance.

"A committee of representatives of the Departments of Agriculture and Customs and of Tobacco Growers and Manufacturers was held in 1926. This Committee recommended that the minimum area planted by any one grower should not be less than half a dunam, but later it was considered desirable to increase the area to two dunams"

The reason why the minimum was fixed at two dunams was doubtless to check the consumption of unexcised tobacco. In fact, however, it precludes the poorer man from cultivating a crop which gives a high return. It is desirable that the minimum area should be fixed at a lower figure than two dunams. Half a dunam appears a sufficiently high minimum.

Prohibition of use of home grown Tobacco.

Another provision which is subject to bitter criticism is that which renders it a criminal offence for the cultivator to smoke his own home-grown tobacco. It is rightly pointed out that compulsion to purchase excised tobacco raises the price to the cultivator by about 60 per cent. On the other hand it is clear that if the cultivator were to be allowed to smoke his own tobacco, a door would be opened for illicit consumption which might have serious results on the excise revenue.

The following table gives the number of offences against the Ordinance during the past two years and the action taken in respect of them :—

Year.				Number of Seizures.	Number of Offences.	Number of Offences Compounded.
1928	...	...	..	5,952	5,010	2,176
1929	...	...	...	5,984	4,551	1,962

All cases of infringement of the Tobacco Ordinance are dealt with by the Director of Customs himself, and he is personally responsible for compounding such of these offences as seem to be suitable for this action. There is no doubt that the Ordinance is properly administered.

(h) OLIVES.

Grade of oil.

There is a large production of olive oil in the country. As a rule the oil is of inferior quality, containing a high percentage of acid. This is due to the primitive nature of the machinery of extraction, to the absence of cleanliness in connexion with the process, and to the antiquated receptacles in which the oil is stored. A reform in methods is a necessary preliminary to a pure and sweet oil.

Methods of culture.

Cultural practice is also as a rule ignorant and primitive. The olives are removed from the trees by beating the branches with sticks. Partly as a result of this practice the crop of the following year is affected so much, that the olive is looked upon in this country as a tree that yields well one year and very poorly the next. A further drawback to successful culture is the ignorance of the fellahin on the subject of pruning the tree. It may be said with truth that in large areas pruning is actuated not by any desire to improve the tree or the crop, but by the necessity to obtain firewood.

Instruction in improved methods.

These are all directions in which instruction would have good results and this could best be afforded by demonstration. The same absence of knowledge of pruning was remarked in the case of many of the Greek refugees, and it was necessary to employ travelling instructors to teach the peasants how to treat their olive trees. There is no reason why such a method should not be adopted in Palestine. The financial results of the system in Greece fully justified the expense.

Extension of area under cultivation.

There are wide spaces in the hill country where the olive would grow and where it would give a better return, even at the present low prices, than is obtained from cereal crops. It would be of advantage to the country if these areas were put under olives rather than cultivated each year with cereals. It was suggested that in cases where cereal land in the hill country is put down to trees, the tithe should be excused on that land until the trees are in bearing. This seems a fair suggestion, not only in the case of olive groves but also where fruit trees are planted, and not only in the hills but in the plains also.

(i) SESAME.

Imports and Exports.

Everywhere a demand was made that the import duty on sesame, which had been removed in 1925 in order to help the Jewish Oil Factory "Shemen" should be re-imposed, and the Palestine Government has agreed to the re-imposition. The sesame position is curious. In the year 1929 while 3,539 tons were exported at an average price of £P.20.436 mils per ton, 3,470 tons were imported at a price of £P.23.278 mils per ton. The imported sesame comes chiefly from China and is generally said to be an inferior seed to the Palestinian seed.

Value as a summer crop.

The cultivation of sesame has a value apart altogether from its crop. It is a summer crop, and requires a great deal of careful weeding and cultivation. It is followed by the winter cereal crop, and the land is in a good condition to receive the seed when the sesame has been pulled. Sesame is therefore a crop to encourage, apart from its commercial value.

Cultivation.

The Jewish colonies grow no sesame, as it is a crop demanding labour both of women and of children at time of harvest. The crop is not reaped; each individual stalk is pulled by hand, labour of a kind which the Jewish population does not favour, in part perhaps because there are not yet many children of an age to help in the harvest. The value of the yield at present prices would not support the expense of hired labour. The fellah carries through the harvest with the help of his family.

(j) BARLEY.

Export trade.

Before the War considerable quantities of Palestinian barley were exported to the United Kingdom for malting purposes. In one year, 1908, the export from Gaza was 38,000 tons. In 1913 it amounted 18,400 tons. Since the war this trade has not revived; the maximum amount exported to the United Kingdom in any one year having been 1,600 tons.

Possible reasons for reduction of overseas trade.

One of the principal reasons for the failure of the trade to revive appears to be that prohibition in America has released large quantities of Californian barley, which now finds its way to the United Kingdom. There are, however, other reasons. The rainfall of the Gaza area is very erratic, and a crop cannot be depended on each year. Probably the merchant prefers to deal where

he is certain regularly to find the amount he desires. The Gaza barley contains a good deal of extraneous matter. A proposal was made to purchase a cleansing plant on behalf of the Government, as it is understood has been done in the Sudan, and to demand that all exported grain should be cleaned previous to export. This scheme fell through for financial reasons.

It is also suggested that the United Kingdom demand for malting barley has fallen and that the reduced demand is met to a larger extent than formerly by supplies produced locally. Also that the time of shipment from Gaza, i.e., the end of June, is too late for the market. Further, the freight from Gaza to the United Kingdom amounts to 4s. 6d. a ton, which compares with 3s. 3d. from Canadian ports, and 3s. 6d. from New Orleans. From New York it is said to be 1s. 9d.

Proposals for revival of the trade.

There seem to be a number of reasons which explain the failure of the barley trade with Great Britain. For its revival, if that revival is possible, there are three necessary preliminaries. First, there must be co-operation between the growers and the merchants in Palestine. Next, grading and cleaning are essential. The outlay on the necessary machinery is considerable and it is probable that Government assistance is a condition of its purchase. Finally, a reduction is required in the freight charges from Palestine to the United Kingdom. The last is probably the most difficult of the three conditions.

(k) MINOR AGRICULTURAL PRODUCTS.

The Silkworm.

The Department of Agriculture employs an expert in the breeding of the silkworm. The budget allotment is so small that the activities of the Section are crippled. This is the more unfortunate in that there is a group of Arabs who are familiar with the culture of silk, and there is a definite demand in other quarters for instruction, for provision of mulberry trees and for assistance to breed silkworms. This is a demand which should be met, if at all possible. Nothing of any importance is possible with the exiguous sums provided in the past, and it is of little use to pay an expert £300 a year in order to stimulate a demand, unless the creation of the demand is to be followed by some more positive action.

Present position of Silkworm Culture.

The culture of the silkworm is suitable to the conditions of smallholders both in the Jewish settlements and in the Arab villages in many parts of the country, and this is a useful line of development of a minor type, where the family income is small

and every additional piastre makes a difference. Of the reality of the demand there is no doubt. The Arabs of Nablus, to whom reference is made above, were willing to provide £100 towards the creation of a small factory if the Government would lend a further £100 to help them. A second application received from the same town in the month of May this year, stated that 4,000 men were out of work in the town and that, if a loan were given to the applicant, he would start a factory which would provide employment for at least a few of them. In some of the Jewish villages in the Emek the work has already been begun on a small scale.

In general it may be said that the outlook for this small industry is not unfavourable. Its practice is being taught in some of the Government village schools. An effort might well be made to extend its usefulness.

Bees.

The production of honey is another activity for the small-holder. This industry is gradually extending, both among the Jews and among the Arabs, though the number of hives kept by the Jews is probably the larger. Export of honey first commenced in 1925 when 9 tons were despatched; in 1926 the amount exported was only 5 tons which sold for £325. The export rose to 11 tons in 1927, 17 tons in 1928 and 24 tons in 1929. The value of the honey exported in 1929 was £P.1,625 f.o.b.

Prevalence of Foul-brood.

Foul-brood first broke out in Palestine in 1924, when 400 hives were destroyed. Since that time there have been minor outbreaks from time to time, until last year, when there were two serious outbreaks in Jewish settlements, costing the settlers hundreds of hives. It is said that if taken at once, this disease is easily controlled.

Expansion of the industry.

Palestine honey is said to be as good as any in the world. With the extension of the orange groves the production of orange-flower honey has very largely increased; the same is true of eucalyptus honey. Wild thyme is becoming less plentiful, as the land on which it flourished is being broken up, but Palestine has a wealth of wild flowers and there is practically no limit to the possible extension of bee-keeping. It is an occupation in which the fellah rapidly becomes expert, and which is popular among the Jewish settlers. The Government employs an expert, Mr. Lipshitz, who is also in charge of the Acre Poultry Farm. If the industry increases at a rapid rate, as it promises to do, it will be necessary to strengthen the personnel of the Department which deals with it.