

## AGRICULTURE AS AN INDUSTRY\*

**T**HOUGH agriculture is the most primitive of the industries, for it began when the wandering hunters or pastoralists fixed their abode for the season's cultivation, it is never regarded as one with the other industries, but as an occupation apart. The categories of agriculture, commerce, and the industries are adopted by the economist as by the man in the street.

This is because it has never shared, except to a very limited extent, the concentration which has become characteristic of the industries proper, ever since the power factory began to swallow up the home crafts and domestic workshops. Broadly speaking, the food production of the world is done on peasant farms, worked by one man and his family, with perhaps a little extra labour at harvest. The size of the holding thus occupied may vary very greatly. In the wheat-belt of Australia the one-man farm may be 1,000 acres, in the Middle West the typical holding is a quarter block of 160 acres. In Europe, on fair cultivable land farms of 10 to 20 acres are very general. The extreme cases are met with in China, Japan, and India, where the holding may be no more than two acres, but is still the sole support of the family. In parts of China may be found densities of rural population up to 3,000 per square mile, of whom 90 per cent. may be engaged in the cultivation of the land. As a general correlation, one may say that the output per acre increases as the holding gets smaller, but the output per man increases with the size of the holding. The single-handed Australian wheat-grower will produce up to 3,000 bushels per season; good English production, apart from recent examples of power farming, will average about 1,200 bushels per man employed.

Almost as a necessary corollary, it follows that the greater the subdivision of the land in a self-supporting community the greater will be the proportion of its population engaged in cultivating the land. One can contrast the position in parts of China mentioned above with France, which before the war was almost self-supplying as regards food and had about one-half of her population on the land. In Great Britain only about one-tenth of the population are employed in agriculture, but less than half the food the country consumes is produced there. As farming is now being conducted in Western countries, about  $2\frac{3}{4}$  acres of land is cultivated to produce the food and other agricultural products required by one unit of the population.

In Great Britain there has been from comparatively early times a drift away from peasant farming towards a capitalist system, with a master and labourers receiving a weekly wage. In the older farming of at least the East, Midlands, and South of England, the land was laid out in open arable fields sub-divided into acre strips. Each field carried the same crop on all the strips; there would be, for example, a field of wheat, another for barley or beans, and a third in fallow. Turnips and other fodder crops were unknown, the live-stock pastured on common grazings and the waste of the manor, and on the arable land after harvest. Each tenant of the manor had a certain number of strips, more or less scattered, in each field; these he cultivated himself and took the produce of. Enclosure—the division of these common fields into separate holdings and private ownership—

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began in Tudor times because the high prices of wool, then the staple export of England, tempted men to exchange cultivation for sheep-grazing. The process of enclosure went on apace in the seventeenth, eighteenth, and early nineteenth century, because of the growth of commerce and industry made demands for food which could only be satisfied by the improved cultivation of the land that was possible with enclosed fields. A few examples of unenclosed land will survive—*e.g.* Laxton, Northamptonshire and the Isle of Axholm; and on the heavy clay pastures of the Midlands one can still see the ridges and furrows of the old common fields.

The output from the land must at least have doubled as a result of the new farming that came in with the enclosures. At the same time the small peasant holdings began to be put together into larger farms. The unsuccessful peasants mortgaged their holdings in bad seasons and had to part with their land. They either sank into rural labourers or got away to the growing industries and commerce. In England from Tudor times there were always openings for men in other occupations than farming, and a continued drift from the land in consequence. We can see the results of this slow "rationalization" of our farming in the present distribution of the land; in 1924 exactly two-thirds of the cultivated area of England and Wales was held in farms of 100 acres and upwards. These larger farms employed on the average  $2\frac{3}{4}$  men per 100 acres, so that if we take the typical English farm as one of 300 acres, the enterprise would be a case of one master and eight labourers. Such a distribution of the land into common fields divided into strips was probably general throughout the greater part of Northern Europe. The organization of farming into larger units has advanced more in Great Britain than in other countries, but the capitalist holding with wage-earning labourers is to be found in all the western European countries, though, except perhaps in southern Sweden, it is not the typical form of land holding. Really large-scale farms organized on an industrial basis are rare. There are great "domain" exploitations among the large landowners of East Prussia, but the similar estate farms of Poland, Czecho-Slovakia, Rumania, etc. have to a large extent been divided in response to agrarian unrest during the war. In Great Britain there are a few men in control of considerable areas, up to 12,000 acres, but as a rule the farms thus constituting a single business still appear as separate holdings in the Agricultural Returns, and are managed individually, only the buying and selling are centralized. It is only in some of the plantation industries—sugar, rubber, cotton, tea, and coffee, etc.—and again in certain forms of market gardening in this country and America, that anything comparable to factory organization can be found. In Russia the five years' plan for agriculture aims at replacing the old peasant cultivation in small units by extensive industrialized exploitations, but while it is clear that great advances in production have been realized, information is as yet unavailable as to the financial results or the stability of the experiment. It is noteworthy that the joint-stock enterprise is very rarely to be found engaged in general farming, and agriculture is thus cut off from the normal source of capital. In Great Britain farming is financed by private capitalists, assisted by bank overdrafts and credit from dealers, though, of course, under our renting system the landlord carries the bulk of the fixed capital.

Certain consequences follow from this predominance of the family farm in the business of food production. The individuals are weak commercial units. In so far as the products are not sold direct to consumers (*e.g.* the milk supplies to northern English towns, where the producer also has a round and sells from his cart), and have to enter the general stream of commerce for distant transport and export, there springs up a loose organization of dealers who collect the small parcels, grade and bulk them. The

producers are powerless against the dealers, who pay no more than will serve to keep the farmers in being. To some extent this dependence upon the dealers has been relieved by co-operation among the farmers, but co-operation is slow of growth, and has proved easy of organization only when the producers are working for an export market. Nor does co-operation remove the mechanical disadvantages of the small farm, its inadaptability to the use of power machinery and the economic organization of labour. Where the land is much divided it becomes difficult to carry out extensive schemes of land improvement such as drainage, of which the collective advantage may be great, though the individual advantage may be unequal and deferred. The strength of the peasant system lies in the willingness of the occupiers to work long hours, in the unpaid labour of the other members of the family and in the scope it gives for individual contrivance and economy. But even this latter virtue is discounted by the fact that peasant farmers regarded as managers of a business are unselected and constitute a random slice of the community, whereas the manager of an industrial enterprise is a man picked for his directive ability. The average performance of a group of peasant farms must therefore be low even as the average character or intelligence of any random group of men is low. Peasant farming is inevitably highly conservative, dominated by traditional practice, and but slowly receptive of new knowledge or scientific method. Indeed as compared with the great industries, peasant farming affords little scope for the application of scientific research. New fertilizers or improved varieties produced by the plant-breeder can readily be demonstrated to the farmers, and will be adopted by degrees according to the intensity of the propaganda. But changes in the system of farming are less capable of demonstration, and often the results of scientific investigation require a prolonged period of working out before the laboratory conclusions lead to a practical process. This intermediary stage is normal in factory enterprise, but is quite impracticable in a system of small units. To take an example, genetic science indicates the way to considerable improvements in the breeding of live-stock, but the experimentation and selection would require work on thousands of animals over a period of years. There is under the existing system of farming no possibility of financing the preliminary work nor of being repaid for success. The only method by which the peasant farms can be linked up to a large directed enterprise is to tie them to the processing factory, and make them work to a schedule.

One may sum up the situation by saying that peasant farming is a mode of living rather than a business for profit, and that the food, etc. on which the urban population depends are little more than the by-products of the peasants' activities.

Broad consideration of economy of man-power must exert pressure in the direction of building up large farms on which the cheapening of production would be effective and would make profits. But farming is still so much of a "mystery" that the capitalist has always been shy of venturing into it, and the cutting of prices to which the peasants are subject keeps wholesale prices down until the margin of profit to tempt the capitalist into the business is less than might be expected. In this country, again, skilled managers capable of handling a 10,000 acre unit would be hard to find, because, there has been no opportunity for obtaining experience of the kind. A man may be an excellent manager of even 1,000 acres which he can keep under his own eye, and yet lack the organizing ability to deal with ten times that area. Of this failure examples are not lacking. Nor under existing conditions would it be easy to obtain blocks of land suited to such a purpose. English land is still sub-divided into a number of ownerships, many of them held for non-economic reasons. On any estate

the woodlands, shaws, and spinneys are numerous, and though producing little in the way of timber, are valued for game, and would have to be purchased at an uneconomic price. An estate managed for production would want to remove both them and the hedgerows, but the capital expenditure would relatively be excessive, and would only slowly give returns. In other parts of Europe where the land is still more sub-divided and where peasant ownership is general, the obstacles to the creation of large farming units are far greater; any general movement in that direction would create a social upheaval. So far from adopting a policy of the kind, however, consistent with a planned national economy, continental nations are in general committed to the preservation of peasant farming by means of protective duties to maintain prices and obviate the competition of the newer countries with extensive cheap production. In France, at the moment of writing, the wheat growers are demanding Governmental aid, and organizing themselves to withhold wheat from the market because the price has fallen to 120 f. per quintal. This is equivalent to 14s. per cwt. the world price being 6s. to 7s. per cwt. in Europe, and the price that is being guaranteed to English farmers by legislation being 10s. per cwt. In Czecho-Slovakia the internal price of sugar from beet it being maintained at about three times the price at which the surplus (nearly one-half of the production) is being sold in the world market, largely to Great Britain. Of course, duties also enter into the internal price of sugar, but the fundamental fact is that the Government dare not abandon the peasants to the play of the open market, and sugar beet is an essential feature in their cultivation.

No citizen, rural or urban, but has to reflect upon these matters. An adequate food supply is the basis of civilization, and every state has to consider how to maintain it. Even in easier times than the present world depression the complaints of the farmers about inadequate returns are general in every country; it is necessary that their position should be one of reasonable prosperity, because their demand for commodities really sets the ball of trade rolling. We may dismiss the idea of overproduction, save as a temporary and local affair. The demand upon the farmer is almost infinitely elastic; not that the consumers can eat more, but because with every expansion of income the demand shifts to better types of food which call for more labour in their production. The present Orientals would like to exchange rice for wheat, just as the Baltic peasant would forego rye if he could afford wheat; a very large proportion of the working classes of all countries live mainly upon cereals, and wish to increase the meat and milk in their dietaries; the English housewives buy more vegetables and fruit as wages increase.

During the last sixty years the wages of the British working classes have been steadily rising, at the same time the prices of the prime food commodities were equally falling, and again are approaching the pre-war levels. But the response has not been so much a reduction in the gross expenditure of the family upon food as a demand for kinds of food that were previously beyond the income available to large classes of the community. The average consumption of meat and milk has increased, still more have vegetables and fruit, hitherto almost luxuries, become part of the dietary of all classes. In the farming of the country these changes are reflected in the increased production of live-stock products at the expense of cereals, and in the growth of market gardening and fruit production.

Apart from increases of population, the demand upon production from the land is increased rather than diminished by this alteration in the standard of living. As the collective demand shifts from cereals to meat and the corresponding shift in relative prices induces farmers to convert their cereals into meat, the total draught from the land is increased, because the gross nutritive power of the meat is much less than that of the cereals from which it was manufactured. In an ordered national economy, if such a thing is feasible, in a state organized for efficiency like an engineer's layout, there is a clear gain of man-power when as small a proportion as possible of the population is engaged in the prime business of producing the food the community requires. Probably 10 per cent. of the population could do this under organization, and yet maintain the existing standard of living. But the vision of an ordered world is very far away; at present most statesmen in the world are intent upon reserving the peasant population and on maintaining, if not increasing, the number of men living on the land. The present population constitutes a stable element in the community, one that is socially valuable in many ways. A peasant population even the old rural communities which have so very largely perished in Great Britain, has a social organization, "a culture" of its own which very few people wish to exchange for the amorphous aggregates of wage-earners characteristic of the great industrial towns. So the small farm is protected even at the cost of dearer food for the rest of the community. The alternative of a reconstruction of the land system is too gigantic a task for any statesman to contemplate; few people care to contemplate social revolution on Russian lines.

But ultimate economy of production lies with the large organized farm, and economic pressure ultimately and, however slowly, has its way. In the past it has transformed the mediaeval land system of England with its open fields and common farming into private ownership and agricultural units of moderate size. It is not to be supposed that such change is at an end, but it may be presumed that as it arises in response to economic pressure it will be a gradual transformation, without sudden dislocation or hardship to any considerable section of the people. Political action may at times accelerate and at times delay, but the course of English history leads one to anticipate that it will do little more than register the changes that have already taken place in men's opinions and mode of living.