

## Some Problems of Egyptian Agriculture

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While Egypt is the "gift of the Nile," like many free offerings there have been certain "strings" attached. True, in its natural state the great silt burdened river with its regular rise and fall has been able to transform its narrow flood plain from a desert into a garden. But the oasis was *small* and it was productive *only* during the season of natural flooding so that the output of food became inadequate for a growing population.

Attempts to increase production have been repeatedly made, especially during the past century. They had two major aims (1) to extend the productive area, and (2) to increase the yield per acre. Dams and barrages, canals and dikes, were built to both increase the water supply, to raise the water onto higher land, and to equalize the seasonal flow.

In general, then, the problems today, as in the past, center about the balance of *land and water* on the one hand, and of *population*, on the other. Both these factors are susceptible of a considerable degree of control. However, thus far attention has been centered only upon increasing the food supply; little or no effort has been made to restrict the birth rate. The latter has, in fact, far outrun the means of subsistence. In the past 50 years it is estimated that the cultivable soil has been doubled, but the population has multiplied four-fold. As a result there are now crowded onto that narrow flood plain some 14,000,000 people, the vast majority of whom are illiterate, miserably poor, hopelessly in debt, almost naked and half starved. A cotton rag, a bowl of corn mush and a few dung cakes (for fuel)—constitute the sole reward for the daily toil of millions. One hesitates to say they are "making a living"; rather, they are "ekeing out a bare existence."

How closely the population presses upon the food supply may be appreciated by computing the size of the individual holdings. For many years, the average number of acres per landowner has decreased until it is now less than  $2\frac{1}{2}$ . But this average does not reveal the real situation. That is still worse. Forty per cent of all the cultivated land is in the hands of only one per cent of the proprietors. As a consequence over  $\frac{2}{3}$  of all of the land owners average less than one acre each! Some of the holdings are unbelievably small—less than 3 feet in width.

It is obvious, then, that of the various problems confronting Egyptian agriculture, none is more serious, none more pressing, than that of the education of the masses. While Egypt is the seat of one of the oldest civilizations, today, over 90 per cent of the peasants are illiterate. Their farming methods are essentially the same as in the days of the Pharaohs. Above all, this education should include an understanding of the necessity for birth control, of sanitation and of hygiene. Egypt has the highest death rate of any country for which we have statistics, but its birth rate is likewise one of the highest.

The second problem, or group of problems, has to do with increasing the quantity and the variety of agricultural crops. What may, reasonable be expected in this direction?

It is estimated that of the potentially productive area in 1935—some 7,100,000 acres—only 5,500,000 acres were actually cultivated. The difference includes:

- (1) 200,000 acres of waste in Upper Egypt now not used, to be irrigated.
- (2) 1,400,000 acres of brackish swampland on the Mediterranean border of the Delta, requiring both drainage (by pumping) and irrigation.

In addition, of the land already cultivated, some 1,200,000 acres produces but a single crop annually, because of a lack of water during the summer. This is to receive perennial or year-round irrigation.

All of the above proposals presuppose *more* water and in addition a *better regulation* of the supply. More dams and barrages, pumps for delta drainage, a second heightening of the Aswan Dam together with added canals are part of the program. Some of these projects will be in the Sudan (English) and others within the border of Ethiopia and will involve cooperative agreements with those governments.

One unusual problem is that of the Sudd—a vast swamp of floating vegetation. Each year this material lodges in the channel of the White Nile. Here the river current is checked, evaporation is extremely large and there is a vast amount of water transpired by the vegetation. As a consequence, of the water entering the Sudd, only about  $\frac{1}{2}$  passes on to be available for irrigation. The most feasible solution of the difficulty seems to be to cut a new channel around the swamp and direct the river through this artificial canal.

One of the disquieting features of the food supply situation is the trend, apparent for many years, toward decreased acre-yields. Year-round cropping which has accompanied the institution of perennial irrigation, the deposit of the fertile silt back of the dams instead of over the fields, the general use of the animal manures for fuel instead of for fertilizer—all of these have made the problem of maintenance of soil fertility a difficult one. Other possible reasons for declining yields are being studied and further experimenting will be necessary before making recommendations for correcting this trend.

One further difficulty of Egyptian agriculture must needs be mentioned here, the need for crop *diversification*. Few countries are so economically dependent upon the production and export of a single commodity as is Egypt upon cotton. It is the all important, almost the only, money crop. Four-fifths of the country's export by value is represented by this staple. Thus, with all of their "eggs in one basket", price fluctuations of cotton brings prosperity or ruin to millions. Legal restriction of the maximum area which may be devoted to cotton has been the corrective used thus far.

All in all, it seems that the most important factor in the Egyptian environment is the Egyptian *farmer*, himself. No amount of engineering to increase production will permanently improve the economic status of the native as long as the great mass of people persist in breeding up to the extreme margin of subsistence. Every such increase in food supply in the past has been promptly followed by an increase in the number of mouths to be fed. Neglecting to recognize the *human* factor in the equation has simply resulted in a vicious circle and no progress.