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EGYPT

OBSTACLES FACING DEVELOPMENT OF AGRICULTURE EXAMINED

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[Article by Engineer Mahmud Fawzi: "High Dam Has Failed to Develop System of Agriculture; Most Important Obstacles Facing Agricultural Production in Egypt and How to Overcome Them"]

[Text] The constant population growth, which has been impossible to stop or to reduce so far and which devours all the efforts exerted to raise the food sufficiency in Egypt, requires fundamental solutions that are up to par with this serious problem. Matters must be tackled firmly, courageously and seriously and we must start today and not tomorrow.

Agricultural production must be enhanced qualitatively and quantitatively and cultivable lands must increase year after year so that the individual's share of the cultivable may remain at least as it is at present. Agricultural concentration and crop load [al-tahmil al-zira'i] must be intensified, agriculture in Egypt must develop by adopting modern technology and the use of irrigation must be truly streamlined because water is the real wealth of this country.

The most important obstacles facing production can be summed up in the following:

1. The constant loss of agricultural lands which is reflected in the encroachment of construction, housing and plants upon the cultivable lands. What makes this problem more acute is the fact that the encroachment takes place against the most fertile lands adjacent to cities and villages. Egypt is losing annually no less than 60,000 feddans of land. Dr Mustafa al-Jabali estimates the loss over the past 20 years at more than one million feddans, an area which exceeds by far the area reclaimed and cultivated with the High Dam water, especially since the lost land is highly productive and the new lands are of low productivity. This encroachment must be stopped with a serious national campaign that starts now by stopping the construction of buildings that are in violation.
2. The scooping away of soil and the loss of the fertile layer of the soil to the brick industry: This is a serious matter, especially since

silt has stopped reaching the valley since the construction of the High Dam. The price of top soil scooped away to a depth of one meter from a single feddan of land has reached 10,000 pounds. This scooping away of the top soil causes the land to lose its fertility for 10 years at least.

3. The inadequate land reclamation and cultivation, considering that we must reclaim and cultivate at least 250,000 feddans annually because the annual population growth amounts to 1.25 million people. We will be thus able to maintain the individual's low present share of the agricultural lands.

4. Streamlining the use of irrigation water: The current ration of water consumed per feddan is 8,500-9,000 cubic meters annually. This is a high figure at a time when lands at the far ends of canals, ditches and water installations suffer from the lack of water. This ration is supposed to be reduced to 6,000 cubic meters annually and 50 percent [sic] of the water is supposed to be saved for other crops. This can be done only through streamlining the use of water, controlling the flow of irrigation water and applying the system of uniform crops in lands across the same irrigation canal. This is the project which Ibrahim Shukri thought of but which has not been implemented. We must take into consideration that if the water ration drops to 6,000 cubic meters of the High Dam water, 25 percent of this volume will be lost to evaporation while the water flows on its way to the field crops.

To make it possible to reclaim lands that will increase the cultivable area to 11 million feddans by the year 2000 when the population will rise to 67 millions, a total volume of 79 billion cubic meters of water will be required, according to Dr Mustafa al-Jabali and Dr 'Abd-al-'Azim Abu-al-'Ata. The volume of water available currently is 55 billion cubic meters which will rise by 2 more billion meters after completion of the Jongli Canal [in Sudan], thus bringing up the total to 57 billion cubic meters, i.e. with a shortage of 22 billion cubic meters in the 79 billion cubic meters needed to irrigate 11 million feddans by the year 2000.

Dr 'Abd-al-'Azim Abu-al-'Ata adds that 9 more billion cubic meters of water can be saved through streamlining and reducing the water ration from 8,500 cubic meters per feddan to only (500) cubic meters and by using the drainage water. The only obstacle facing the use of drainage water is the high rate of salinity in some drainage canals and the water of these canals poses a danger if used for irrigation.

5. Developing agriculture before developing irrigation: Dr Mustafa al-Jabali says that streamlining irrigation depends to a large degree on the development of agriculture. He adds that agriculture must be developed before developing irrigation. If agriculture is developed and if it becomes possible to expand the collective cultivation of other crops, as is currently happening in the case of cotton, and to tie the collective cultivation [which, presumably, means cultivating one kind of crop in one

large area instead of having it cultivated in small areas scattered here and there] to irrigation canals and ditches, it will become possible to realize the necessary development of agriculture and to save quantities of water for the required expansion.

6. Concentrated cultivation: Agricultural experts and scientists are unanimous that the only hope for increased agricultural production lies in concentrated cultivation as long as the fragmented agricultural ownerships stand an obstacle in the face of streamlining the use of irrigation water. Concentrated cultivation means cultivating the same land successively with more than one crop in the same year. Concentrated cultivation in Egypt has now reached 180 percent whereas it was 150 percent before construction of the High Dam. With modest efforts, concentrated cultivation can be increased to 300 percent, meaning that the crop acreage in Egypt can be raised to 18 million feddans. China, for example, has realized 300 percent in concentrated cultivation. It has even achieved 500 percent in the concentrated cultivation of vegetables, meaning that the same land is cultivated with five successive vegetable crops in the same year. Some (tropical) countries have been able to cultivate three and more wheat and rice crops annually by relying on quickly ripening crops, which is the new inclination [in agriculture] at present.

#### 7. Quickly-Ripening Crops

The world is inclined at present to cultivate quickly-ripening crops to intensify the use of land and to increase concentrated cultivation. There are types of good-quality cotton that mature in only 4 months, instead of the 8 months presently needed in Egypt. There are also types of wheat that ripen 28 days faster than the ordinary type of wheat, types of highly-productive corn that mature in 65 days and types of rice which produce two crops in the same period during which one crop is produced in Egypt, and so forth.

#### 8. Calculating Production by Day

According to what Dr al-Jabali stresses, matters have reached the point where some countries now calculate production by the day, saying that wheat production per day is so much. The type of wheat that stays in the soil for 5 months and yields seven irdabbs [per feddan] is better than the type that stays in the soil for 6 months and yields eight irdabbs, and so forth. Thus, the land is not left fallow for a single day, and it is considered gross negligence to do so.

#### 9. Crop Structure

The current crop structure is considered one of the biggest obstacles facing agricultural production. The division of land to produce food for man and food for livestock, especially animals that produce no meat and no milk and that are used mostly for labor that can be performed by machinery, needs to be changed in a fundamental manner. We cultivate

2 million feddans of land with clover annually to produce fodder for animals with a poor rate of fodder transformation into meat and milk. For tens of years, we have not made any serious efforts to select local strains of cattle and buffalo that can raise the productivity and transformation efficiency of the Egyptian livestock, thus causing most of the area cultivated with fodder to go to waste.

The conventional current crop structure, adds Dr al-Jabali, is of relatively low benefit and is not conducive to raising the yield from the natural and human resources used in the production process. The structure follows an old pattern whose fundamental goal was to realize food sufficiency for the small farmers and workers engaged in agriculture. This pattern has continued without any noticeable change, except for expansion in the cultivation of vegetables, fruits and sugarcane.

This crop structure was justified in the past when there was a balance between the land resources and the population which made it possible to supply the essential food needs and when the Egyptian man's needs of the other commodities were limited. But now the balance between the cultivable land and the population has been upset and the continuation of this old pattern of crop structure is no longer justifiable because it is unable practically to meet the population's essential needs. We import more than 65 percent of the wheat we consume and 80 percent of our [vegetable] oils consumption. It is no longer possible to cling to regional food sufficiency and this philosophy has to be replaced in the near future by the philosophy of intensifying the use of the available resources in agriculture.

#### No Development in Agricultural Systems Since High Dam

Dr al-Jabali also stresses that the Egyptian agricultural system has not developed at all since construction of the High Dam, except in one aspect—namely that most of the corn is cultivated now in the summer instead of (using the Nile water) to cultivate it. This is despite the fact that the current potentials of the High Dam, the change in the balance between the land and the population and the change in the prices of export crops make it necessary to exploit the available resources, whether natural or human, in agriculture to the furthest limit possible.

The need of the agricultural production for a fundamental and immediate change is a national duty and all the sincere efforts must be consolidated for the service of Egypt and of the Egyptian people, especially when we see that the president of the republic himself is devoting his top and major attention to agricultural production so as to put a stop to this fearful rise of prices and so that we may start an era of prosperity with the era of peace.