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PROBLEMS FACING DEVELOPMENT OF NEW CITIES DISCUSSED

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[Interview with Hasaballah al-Kafrawi, Minister of Reconstruction and Housing, Michel Fu'ad Chief of the State Board for Architectural Planning, Dr 'Abd al-Halim al-Ramali, Deputy Chief of the Board of New Communities, Dr Mamduh 'Ali Sahri, a Specialist in Soil Mechanics, and Engineer Salih Hajah, director of the Advisory Engineering Office, by AL-AHRAM: "Spirit of Fear Razes Over the New Cities!" date and place not specified.]

[Text] What is the truth concerning the rumors about the new cities, six years after work began on them? And after 223 million pounds have been spent on them?

Is it true that an error was made in choosing their locations? Why were the studies of the properties and nature of the soil unable to uncover the hidden factors of these sites, in which clay and salt materials have appeared, and which now threaten the foundations of these cities and require huge sums to chemically treat them? Is it true that the city of 6 October is threatened with danger due to the transiting of the SUMID oil pipeline?

AL-AHRAM received the following replies to these questions from Engineer Hasaballah al-Kafrawi, the minister of reconstruction and housing.

No one can deny the fact that psychological pressure has almost changed the life of the capital of Egypt and its cities into a series of torments, basically caused by the problem of problems, the dreadful increase in population and what that produces and will produce.

When Egypt and its leadership decided to build six new cities to attract this anticipated flood of humanity, it was a decisive decision. All the questions that are now being raised are, by all standards, national questions, which basically follow from a real sense of caring for these huge, enormous projects and also stem from the desire not to have any doubt spoil the completion of the new cities which are the hope of Egypt and its population for a better life.

[Question] Why was the decision made to build the new cities?

[Answer] From 1975 until now, the ministry has been making studies, in which international consulting firms and Egyptians experts have participated.

All the studies have stressed that the utilities of the existing cities, and especially Greater Cairo and Alexandria, which are currently overcrowded with more than a quarter of the country's total population, probably cannot be expanded horizontally, which adds new burdens onto these utilities. Therefore, there were recommendations against expansion in the city of Gizah and the areas north and east of Cairo, especially in agricultural lands. The studies also recommended the need to begin to build several "satellite" cities around Cairo, whose utilities and services would be completely independent of the "mother" city. Therefore, the decision was made to build the cities of 6 October, al-'Abur, and al-Amal. As for the city of 15 May, its construction was certainly to provide the necessary housing and services for the workers of the factories located in the area, as well as to lessen the load on the "mother" city, since the new city would rely on its independent utilities. Based on that, the expansion west of Cairo in the city of al-Awqaf and along the Pyramids Road, or east of Cairo, for example al-Salam City must not be encouraged in the present stage until substitutes can be found for the utilities of Greater Cairo, and until the needs of the present population of existing areas can be satisfied. Any attempt to expand now would certainly be at the expense of the exhausted existing utilities.

The English Pilot Experiment

Engineer Hasaballah al-Kafrawi explained how benefit was derived from England's experience in building new cities after the destruction of World War II. They built 32 new cities, completing them over a period of 35 years. The first stage of this took a full 10 years, whereas we were able to start life in the City of the Tenth of Ramadhan within only 3 years, along with 15 factories inside the city starting production.

[Question] But what is the role of the state in encouraging the establishment of projects within the new cities?

[Answer] The government plays a comprehensive role, through establishing the main utilities at tremendous costs. So far, as happens in all the new cities of the world, the investor in the first stage of the city pays a cost that is less than the cost of utilities per meter. In that stage, the government gives a subsidy for each meter sold. The cost per meter of land sold for average-sized and economic places has not so far exceeded 12 pounds in any city. As for land whose costs were increased, because of a reduction of the subsidy offered by the state, this was land to be used for industrial and commercial projects that would yield a profit. Their prices were increased whenever construction increased in the city. The price of this land in our new cities is still suitable, as evidenced by the great acceptability among investors for establishing their projects there.

If we were to review what has been done in the city of 10 Ramadhan, as an example, we would find that the first stage of the city was composed of four districts and a part of the city's center. The districts were divided into 24 neighborhoods, with each one containing approximately 1000 housing units. The state built temporary utilities side by side with the city's permanent utilities. Most of the units of four neighborhoods, with their services, were sold to workers in the city, currently building two neighborhoods. Land was distributed to individuals and cooperative associations in 26 residential neighborhoods, at a cost of 3.5 pounds per meter. Now, and 5 years after the start of construction of the city the utilities are available. During this month landowners were told that they could obtain a loan for 90 percent of the construction costs, on easy terms, so long as construction is begun within a maximum of 1 year.

Clay and Salt: Is the City of 6 October Threatened?

One of the questions that must be put to the minister of reconstruction and housing, and the group of experts responsible for leading this work, is about the location of the city of 6 October itself. The fact that it might have been contaminated with error, and the extent of the truth about rumors about clay being found in large areas of the city, which is affecting the foundations of buildings, all of these concerns must be addressed. Protecting these buildings will require getting rid of this clay, which might cost vast sums of money. Moreover, areas of high salinity are present, which will require special treatment for foundations. A question has also been raised about selecting the city's location in an area through which the SUMID oil pipeline will pass, which could result in dangers in the event a fire broke out that could spread throughout the city.

At the outset, Engineer Michel Fu'ad, chief of the State Board for Architectural Planning, explained the reasons for choosing the present site of 6 October City:

"Selecting the sites for the new cities around Greater Cairo was done in accordance with a regional planning study for the Greater Cairo region. This included economic, social and topographical studies. It recommended the need to direct the expansion of Cairo through the creation of new cities and other groupings, following and using two axes. The first axis was eastwards in desert lands, and the second was westward also through the desert. This was to preserve the areas under cultivation."

[Question] How were the sites selected?

[Answer] In accordance with these studies, the locations for the new cities, including 6 October City, were selected on the following bases:

The economic distance between the "mother" city and a satellite city such as 6 October and the closeness of the city's location to the current regional highway network, which would assist the economic development of the new community. There were topographical studies made of the location to determine its suitability for economic growth, and to determine the sources

of water available, whether underground water or sources of water from the Nile and canals. Sources of energy and its potential use as far as industry and tourism in these communities were also taken into consideration. In addition the economic feasibility of providing energy services to the population were also considered. There were special studies of the geotechnical properties and nature of the soil, upon which the city would be built, and environmental studies to determine the climatic and natural factors which would have an impact on dealing with the environment and adapting to it. Finally, there were studies of defense strategy on the national level.

In accordance with all these planning factors, the site for 6 October City was selected in light of all these studies, which were made by a specialized group of advisors to the Architectural Planning Board.

The surface area of the city's location is some 10,000 feddans. The consulting engineers in soil mechanics made some 41 probes in the city along the surface, ranging between 750 and 1000 meters. This was done to determine the nature of the soil, and to determine the suitability of the location from the economic point of view, especially with regard to foundations. A group of consulting Egyptian experts participated in the general planning studies for the city, along with specialists of the board. There were some 29 experts, including university professors and advisors with international experience. There were 12 experts who hold educational degrees in their field of competence.

Probes to Study Soil Depths

If a study of earth properties and soil mechanics was vital, which could be determined through "probes" of the soil depths before choosing the location of the new city, then there is an important question about the presence of clay and salt in the soil of 6 October City.

Dr Engineer 'Abd al-Halim al-Ramali, deputy chief of the Board of New Community Construction, said:

"The offices concerned were tasked with making studies of earth properties and soil mechanics. The total number of probes was 550, in addition to the concentrated probes made by the contracting construction companies, numbering about two probes for each building. These were made by numerous university professors who are specialists in this field. The total number of probes by the State Nile Company for Contractors alone was 195 in the secondary locations neighboring on the sixth district. It was clear to the board from the results of the probes and the views of the professors advising the board that pockets of clay had been found in some of the sites and that the percentage of salt could be confined in specific locations. The consulting offices that carried out the planning and detailed designs provided the results of these advisory studies to determine the suitable uses for the land in terms of engineering and economics of all types.

"Previously, the minister and the chief of the board issued a decision to form a technical committee in March 1982, to review the general, structural plans for the city and the soundness of the location. This committee decided that the State Board for Architectural Planning, which had prepared the general plan for the city, had considered all conditions in order to ensure the soundness of the area. It recommended that, in light of what was reported to the effect that the Egyptian desert is permeated with pockets of clay, it was necessary to make concentrated probes before making the detailed plans for each area. This is what was done by the Board of New Community Construction." Dr Munduh 'Ali Sabri, a specialist in soil mechanics, added: "Only two probes turned up some pockets of clay, with a thickness of not more than 2 meters. This does not represent any danger, nor does it necessitate any design precautions. "Some saline properties were found in the soil. They were analyzed, and then some 150 probes were concentrated to learn the size of the areas containing severe salinity. We found that 90 percent of the areas had salinity that did not represent a danger, since the proportion of harmful salts was within internationally permissible limits. As for the other 10 percent, it was in scattered areas; dealing with this will vary according to the type of installation built on them. "The nature of the desert soil in Egypt makes it possible to find pockets of clay or a percentage of salinity in all areas, which could vary from one area to another according to its geology. Treating the salt might be done by flooding the areas of the foundations or with bitumen paint or by using sulphate-resistant cement. Both solutions are commonly used, where the building sites are saturated with water during the construction stage. Often, the foundations of Cairo's buildings are painted with bitumen, and sulphate-resistant cement is used in many of them. That does not represent a relatively large part of the total costs. It is also worth mentioning here that most of the foundations in al-Sadat City for example required the use of sulphate-resistant cement and bitumen paint."

Treatment Costs Are Limited

Regarding the results of some probes into the city's soil Engineer Salah Hajah, director of the Advisory Engineering Office, who took part in preparing the plans and design of the utilities for 6 October City, determined that "some clay pockets existed in certain areas of the districts, whose percentage did not exceed 10 percent of the total of these areas. These pockets were avoided in the first, second, third and fourth districts, since that did not represent any burden with regard to construction in those areas. The reason for that is that they were used for the open areas and gardens required by the plans.

He went on to say: "As for the sixth and seventh districts, some of their construction projects were treated by engineering methods in accordance with the reports of the specialists in soil mechanics and foundations, and by resorting to construction methods that ensure full and permanent security for the buildings. We found that the increase in costs for foundations for some of these buildings did not exceed 10 percent. Consequently, it was a very slight percentage when distributed over the

entire district. As for the probes pertaining to the area earmarked as the center of the tourist area, no clay pockets were found there. In the industrial zone, where detailed planning for the first stage has been accomplished for an area of about 700 feddans, out of a total for the industrial zone of 2500 feddans, it was found that there are some areas with relatively high saline-content soil. The surface areas did not exceed 10 percent of the total land area. The treatment of this type of soil, in terms of construction, varies according to types of buildings involved. Cumulatively from our viewpoint, this does not constitute a heavy burden with regard to industrial projects. Our expertise in architectural planning, new cities and buildings, in all parts of the republic, deals with the soil in accordance with its various types."

SUMID: Line of Danger Through 6 October City

One question remains about the SUMID oil pipeline.

Dr Eng 'Abd al-Halim al-Ramali, deputy chief of the Board of New Community Construction, said: "There have been discussions between the State Board for Planning and the SUMID Company regarding this matter. These discussions reached the point of defining the security precautions required and technically acceptable by the SUMID Company. All these precautions were adopted in the structural and detailed planning for the city. The SUMID Company has approved these plans, which will ensure the security and integrity of the line and the neighboring areas."

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