ASSESSING WATER RESOURCES NEEDS AND AVAILABILITY FOR THE PROPOSED DEVELOPMENT CORRIDOR

By

Sally Ahmed EL-Awady

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
In
IRRIGATION AND HYDRAULICS ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

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Key Words:
Development Corridor; Farouk El Baz ; Water resources ; Egypt's national strategy ; New urban expansion

Summary:
Development Corridor has a vision for developing west desert of Egypt but also many debates were raised against this project. One of the main components that could terminate the project is the availability of water resources.

This research will be an assessment for water resources need and availability for the Development corridor project to introduce more feasible project that reinforce the strategy of horizontal expansion necessary to face population growth.

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Abstract

It is not possible to foresee establishment of a modern network of transportation systems within the confines of the Nile Valley and its Delta. In the meantime, the growth of population negates the potential of continuing to live on and utilize only 5% of the land area of Egypt. Thus, it is imperative to open new vistas for expansion outside of the inhabited strip. Development Corridor proposal provides an alternative solution to the numerous problems that face Egypt today. Despite the stated benefits there has been some debate as to the viability of the project and its potential benefits. One of the most critical components in the Development Corridor proposal would be the availability of water resources that might terminate establishing one or more of the east-west connectors.

Regardless of the availability of water resources and regardless of the fact that Egypt suffers from water scarcity, population will keep increasing and demands for horizontal expansion and for domestic water will have to be met.

The main objective of this research is to assess the Development Corridor –as a whole then part by part-from water resources point of view with the aim of providing more suitable solutions to make use of the concept of getting out of the narrow valley.

Taking into consideration the 'Egyptian National Strategy' which has the same concept of horizontal urban expansion but with more specified vision for activities and new urban areas, but also with assessing water availability and demands.

It is aimed to identify corridors for which water demands are impossible or very difficult to meet and study alternative locations for replacing these corridors. Then identify connectors that have enough water resources to meet the demands and propose them as promising starting stages.

New formulation for Development Corridor that meets the Egyptian National Strategy vision and the needs for horizontal expansion and development in large areas in the western desert to meet the highly growing population rates.