ECONOMIC ADAPTATION STRATEGIES TOWARDS WATER SECURITY IN EGYPT

(COMPARATIVE STUDY)

Submitted By

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B.Sc. of Commerce (Accounting), Faculty of Commerce, Cairo University, 1989

Diploma in Environmental Sciences, Institute of Environmental Studies and Research, Ain Shams University, 2001

Master in Environmental Sciences, Institute of Environmental Studies and Research, Ain Shams University, 2009

A thesis submitted in Partial Fulfillment
Of
The Requirement for the Doctor of Philosophy Degree
In
Environmental Sciences

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APPROVAL SHEET

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ABSTRACT:

Water is a multi-faceted life-necessity good, a key cross-sectoral input for development and well-being, has indispensable environmental, cultural and religious values, as well as recreational opportunities. Differentiated by type of use, quality, and delivery reliability, water represents a complex socio-economic-political issue (Douglas, 2009). Thus, the increasingly water supply-demand gap facing Egypt threatens the society with a growing water scarcity crisis that may affect the stability of the country; with an alarming need to realize water security (Jackson, 2013). This critical situation necessitates the strict as well as wise application of all possible tools to save and redistribute water to accomplish and sustain water security in Egypt. Great efforts have been made on the technical side towards overcoming the problem paying less attention to its socio-economic aspects. Nonetheless, economics brings insights to water management (Griffin, 2006).

The study applies economic principles and tools to water management guided by the following facts:

a) Economics is the study of the allocation of scarce resources.
b) Water is a basic human right and is an indispensable input towards the fulfillment of most of the remaining human rights.
c) Although water is an economic good, it performs vital indirect functions of public good.

Focusing on Egypt's strengths and weaknesses, available as well as forecasted opportunities and threats by applying the SWOT Analysis,

emphasizing the importance of joining the efforts by and between all stakeholders on the broader economic scale with the highest level of decision-makers in the country to conclude with the way through saving the country the consequences of the vast-spectrum threats caused by water scarcity (Douglas, 2009).

The study recommends the inclusion of water data into public economic accounting systems of the country where all parties participate in water-related planning and implementation of the relevant action plans, guided by water scarcity figures on forming policies and allocating resources within the overall context of sustainable development. Where water allocation should be based on the strategic needs of the country from the strategic crops, strategic quantities to the municipal, industrial, hydropower generation and navigation requirements, and not on the historical needs.

Nonetheless, the study does not intend to conclude with an inclusive strategy or solution due to the variety of water security issues between several ministries that raises the need to formulate a committee on the highest level to put such a strategy incorporating all the efforts towards accomplishing water security.

Keywords:

Egypt, water supply, water demand, water shortage, scarcity, poverty, GDP, water pricing, water price elasticity, irrigation efficiency, water footprint, water management, hunger, water value, strategy, SWOT analysis, scenario.

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