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Development a fuzzy model to predict the index of urban development priorities of the parties to the Egyptian city in partnership between the Cooperative Trinity

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Abstract

Egypt suffers from the rapid growth of informal areas, as an expression of the population needs. New cities have not been able to attract the inhabitants of those areas, as a result of lack of responsiveness to the needs and priorities. An earlier study by the researcher using a fuzzy model of priorities showed that the independent results of each class of cooperative trinity was spaced, which made a model giving a double-headed decision. The aim of this research is to develop the former fuzzy model to make it able to choose a single ideal alternative to represent compatibility between cooperative trinity. The model used a neighborhood satisfaction index, the fuzzy logic and Delphi method . Results showed the efficiency of the developed model and the possibility of reaching through it to an ideal alternative to the indicator of urban development.

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1. Introduction:

The contemporary city in developing countries, including Egypt, is suffering of rapid urbanization and the increasing demand for housing is not commensurate with the economic capabilities of the state and its resources. The breach laws are growing within urban environments, as an expression of the population about their requirements and their needs. New cities and the state projects have been unable to attract low-income people, to reduce the growth of informal areas, as a result of not meeting the requirements and priorities of the population. . Until it became 60% of the output of the housing units in Egypt produce in the informal areas. (Specialized National Councils 2000).See Fig.1

So achieving a successful urban environment lies in the link between the role of the state and the experiences of the population to try to achieve the difficult balance between the spontaneous growth that reflects the population needs, and the state programs which lacks a great deal of those requirements.(Eraqi 2013). See Fig.2. Self-help housing programs appeared as the opinions of researchers in exploiting the capabilities of low-income in informal areas, such as have appeared by (Abrams 1964; Abrams 1966; Turner 1966; Leeds and Leeds 1967; Turner 1968). However, it depends on the gradual implementation of the urban environment. This requires the development of progressive priorities to the requirements and needs of the population.



Fig. 1 Rapid informal growth, during 8 years, the parties of Shiakhel Helwan -Egypt. 2000 (left) and 2008 (right). (Sims 2010)

The application of those ideas has been put in a model to predict the demand priorities in a former researcher’s study, helping to take the appropriate decision to the priorities of urban development for low-income areas of cities to participate between cooperative trinity of experts and decision-makers and users. But the results showed a clear contradiction in the ranking of urban development priorities between the cooperative trinity, it put a new obstacle in the way of setting clear priorities for sustainable development of the urban extension of cities.

The aim of this research is to develop a fuzzy model used in a previous Eraqi’s research to bring agreement in forecasting the development priorities between cooperative trinity. This makes it easier for decision-makers access to alternative optimal development, as an important entrance to make a balance between state intervention and the requirements of the population. This will achieve a sustainable urban environment and improve the situation of the

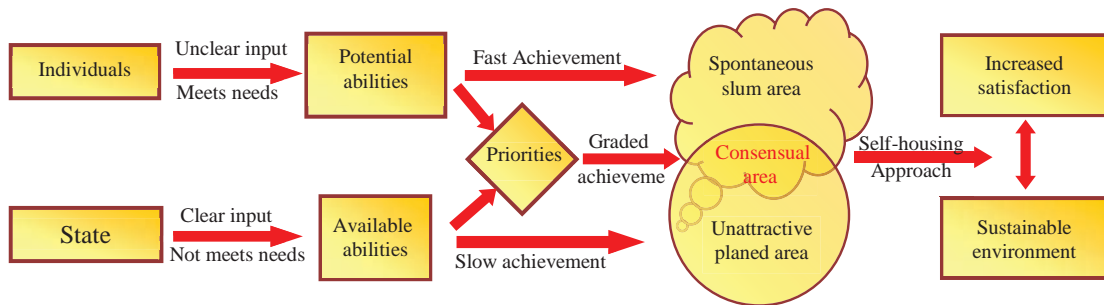


Fig. 2 Role of the state and individuals in achieving the target product of low-income urban (Eraqi 2013)

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