

# Methods of using Parametric design in solving slum areas in Egypt

(Study Case: Ezzbat Khaer Allah Slums)

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## Abstract:

The Arab Republic of Egypt suffers from urban problems resulting from population inflation and increased urban growth, hence the problem of randomness and penetrated as cancer took many archaeological sites in its path, and in addition to that, informal areas became overlooking many major streets such as the Nile Corniche and the Ring Road.

The research sheds light on the intellectual development in design trends through the use of Parametric Design technology in which computer design programs are used to produce designs based on engineering principles and concepts with mathematical logic inspired by nature.

The researcher chose the area of "Ezzbat Khaer Allah" (a case study) where the problem of slums appears with the presence of archaeological areas inside (such as Megra El Ayoon wall - the area of El Sabaa Banaat), and because it overlooks the Nile Corniche on one side and passes through the middle of the ring road.

The importance of the research is due to how to use the parametric design technique in creating aesthetic murals with decorative characters (to suit the history of the Islamic Tulun antiquity) to separate the "wall of Megra El Ayoon" from its random background (the rest of "Ezzbat Khaer Allah" slums) in a way that is commensurate with the nature of the archaeological place to create the appropriate atmosphere for the visitors of the place without harming them by the ugliness of the region, which contributes to raising cultural awareness and belonging to the people of the region as well, besides protecting those monuments (from neglect and destruction), in addition to increasing the touristic areas which increasing the national income of Egypt

We find that in the same way, we can solve the problem of "Ezzbat Khaer Allah" slums overlooking both sides of the Ring Road, where we can make a fence on both sides of the road With a height sufficient to cover the random area, it carries design features commensurate with the place in terms of modernity, using parametric technology in design thinking ,Which has a profound impact on improving the aesthetic image of Cairo and raising national awareness of the importance of beauty and cleanliness for all members of society, especially for the homestead.

The research also aims to encourage designers to use modern design technology and a renewed design idea in solving old and widespread problems in Egypt, inexpensive and cultural and financial means.

## Key Words:

Sloppy (slums) plasticization, Parametrics in slums, Parametric Design.