Alexandria University
Faculty of Fine Arts
Architecture Department

# RESILIENCE ASSESSMENT FOR NEW BORG EL ARAB CITY

**Presented by**
**Maram Ahmed ElSayed Mohamed Omar**

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**Under the supervision of**

**Prof.Dr. Hesham Mohamed Seoudy**

Professor of urban planning
Faculty of Fine Arts – Architecture Department

**Dr.Ahmed EL Zayat**

Lecturer at Faculty of Fine Arts – Architecture Department

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# ABSTRACT

Internationally, Cities in the 21st century are facing wide range of increasing risks which could be natural or man-made hazards. The scale of urban risk is increasing, due to complexity of city systems and the rapid urbanization which leads to the growth of the impacts of uncertain risks that may suddenly occur. These risks are divided into two types, first are acute shocks which happen suddenly and unexpectedly like earthquakes, fires, and floods, tsunamis and terrorist attacks, second are chronic stresses that continuously weaken cities on a daily basis. These stresses might be high unemployment, endemic violence, an inefficient public transportation system, economic crises, and food and water shortages.

According to the previous knowledge, the need of building resilient cities which can resist, respond and adapt to the surrounding risks and challenges is a goal that must be fulfilled, to be able to properly function at both good and bad times to all its inhabitants. In order to achieve resilient cities, urban planners and architects started to study the factors that contribute to city resilience and implementing new strategies in urban planning to foster more resilient cities. Moreover, several resilience assessment tools and frameworks were developed the past decade, which helps to monitor and measure the city resilience by understanding the systems, processes and functions that shape its resilience profile.

Obviously, the increasing attention to resilience is reflected on the increasing number of assessment tools and frameworks developed for assessing urban resilience. Resilience assessment tools are divided into two types, the first is focused on single sectors, the second take a multi-sector approach. Those falling under the multi-sector section, have a comprehensive approach toward resilience and try to address different environmental, social, economic, and institutional aspects of urban resilience.

As a result, the thesis is discussing the importance of enhancing city resilience in Egypt's new communities and implementing resilience strategies, while building our cities and how it can be translated into measurable indicators to absorb, recover from and bounce back from any uncertain risk. By assessing the current resilient situation that could provide important understanding into city resilience weaknesses, strengths, and opportunities, that help in taking better decisions and changes for supporting future development, which adds to the resilience of the city and helps in monitoring the city performance in the future.

The research will investigate Arup's City Resilience Index (CRI) which was developed by the help of Rockefeller organization and it is considered to be a comprehensive multi-sector approach which gives cities tools to diagnose strengths and weakness and also to monitor their performance as an attempt to shed lights on the importance of assessing our cities and building their resilience.

The tool relates to four key dimensions health and well-being, economy and society, infrastructure and environment and leadership and strategy. Underpinning the four dimensions, there are 12 Goals that each and every city should be aiming to fulfill these goals in order to achieve resilience, 52 indicators are added giving further definition to the 12 goals and providing better understanding to the important factors that contribute towards the resilience of urban systems.

By applying the City Resilience Index on a case study New Borg EL Arab, Alexandria to test the applicability of the tool in Egypt and to give a better understanding for the city's resilience profile and highlighting the strengths and weaknesses in to maintain future developments and monitoring to the city.


Resilience, Resilience assessment, Urban resilience, Resilient cities