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AN ANALYSIS ON CAPACITIES OF OLD FABRIC IN SOCIAL RESILIENCE OF CITY AGAINST COVID-19 EPIDEMIC: A CASE STUDY OF OLD FABRIC OF NAJAF ASHRAF CITY

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Abstract

The large-scale outbreak of the Coronavirus, with unprecedented acceleration and complexity and little information about it, has put human lives, especially cities, to a difficult test. The experience of local communities in dealing with the Coronavirus has been accompanied by many strengths and weaknesses, especially in the field of urban planning and management. These are important lessons that cities should learn from. The old cities, due to their compact fabric, mix uses, and centrality was affected and dealt with the pandemic differently from other parts of the city. According to this approach, the present study aims to analyse the urban social resilience capabilities of the heritage fabric of Najaf (central Iraq) in the era of the Coronavirus epidemic. The research method in the present study was descriptive-analytical in terms of methodology, and it was applied in terms of purpose. The library method (distribution map of COVID-19 epidemic, and papers in line with the research topic) and survey method using questionnaire and Delphi method were applied for collecting the required data. For analysing and preparing data, SPSS software is used. The study of urban social resilience indicators showed the components of "social capital" and "participation capacity" has the most effective in encounter the pandemic.

Keywords: COVID-19, Najaf Ashraf city, Old city, Urban resilience.

1. Introduction

Today, the spread of the Coronavirus as an emerging organism has become one of urban development and urbanization counterparts. The virus destroys the quality of life and livelihoods. In many countries, COVID-19 has at least temporarily, changed the face of cities and fundamentally affected the debate over how to manage urban life after the outbreak of the virus. The current crisis has created a state of emergency, dramatic actions, and unprecedented movements in cities and countries around the world. Questions such as whether COVID-19 will have a lasting effect? How should we manage urban life following the outbreak? Emphasize the need to learn lessons about urban resilience (Table 1) and the potential value of using it in crisis [1]. According to Aldrich [2], if space is a reproduction of social and economic processes, the urban space is expected to reproduce itself in this process. Therefore, community-based crisis management as a new driver by using the social capacity in the corona and post-corona period can increase the resilience of society [3] and reduce the psychological and social problems [4]. It is necessary to identify the capacity of urban social resilience against the pandemic's consequences in the study area of the old city of Najaf Ashraf to deal with this pandemic. Therefore, the present study's main question is as follows; what are the potentials and limitations governing the formation of resilient communities against the Corona pandemic in the old fabric of Najaf?

Table 1. Research background.

Name	Title	Conclusion
The World Health Organization (2020) [5]	Improving the readiness of the urban environment against Covid-19 to respond effectively to it in cities	This study emphasizes the urban environment dynamics as travel hubs that cause severe outbreaks and extensive public transportation networks. The results show that the virus in urban environments affects the most vulnerable groups.
Lee et al. (2020) [6]	Epidemic preparations in urban environments to explore new opportunities and challenges of corona effects in urban environments	They believe that urban environments have several common factors that should be considered to deal with this epidemic. In other words, to ensure better preparedness in urban environments, emphasis should be placed on improving resilience to deal with prevalence and health. As a result, active actors, local and social communities and social networks should be used to promote resilience.
Shaw et al. [7] (2020)	Governance, Technology and Citizenship Behaviour in Epidemics: Lessons from Covid-19 in East Asia	To examine the commonalities in response to Covid-19 in East Asia, China, Japan, and South Korea, they find that countries have different governance mechanisms. But with a few different governance decisions in the respective countries, they have a strong correlation between society and community behaviour.

Singh et al. (2020) [8]	Risk of urban health and resilience in Asian cities	Exploring urban vulnerabilities and reducing risks to health and wellbeing analysed resilience measures for various Asian cities. Environmental, social, cultural, and economic factors have a great impact on human health and wellbeing. They believe that because cities are composed of complex, dynamic, socio-environmental, and technological systems, they have different human health and wellbeing functions.
Litman (2020) [9]	**Victoria Transportation Policy Institute** (World Health Organization resilient neighbourhood planning)	Communities can increase their resilience to epidemics and other sudden economic, social, or environmental hazards. Compares Covid-19 virus with other health risks, examines various problems caused by pandemic control interventions and suggests specific ways in which communities can better respond to, respond to, and recover from epidemics and other shocks This study recommends neighbourhood-based solutions for urban planning and urban planning that terraced, medium-density houses are better than high-density residential towers.
Honey-Roses et al. (2020) [10]	The Impact of Covid-19 on Public Space: An Overview of New Questions	This paper measures the changes in citizens' communication with public spaces for urban planning and design in the post-Corona period. The results show that this period was a good opportunity to examine the relationship between urban planning and public space and health, but these spaces were not planned for such crises. Public spaces are believed to remain a valuable place for socialization, community building, and identity formation in the post-Corona era.
Urban Heritage Conservation and Sustainable Development Research Team of the School of Architecture (2020) [11]	Urban spatial functional-response strategy to the epidemic in the face of an urban emergency	This booklet follows the rules set out in the 2005 International Health Regulations, the 2018 Public Health Preparedness and Response, and other documents released by the World Health Organization. The organization has been monitoring the prevalence of Covid-19 in China for more than two months since the beginning of the year; And information on epidemics and guidelines on an ongoing basis about China and other countries in terms of urban improvement and development, the city's ability to respond

		to an outbreak, the stability and soundness of public health facilities, the rationality of spatial distribution; and Published compatibility between public health facilities and infrastructure.
Djalante et al. (2020) [12]	Building resilience to biological hazards and epidemics: Covid 19 and Implications for the Sendai Framework	These recommendations relate to knowledge of disaster perceptions and emergencies related to health, disaster risk management to manage both hazards, and potential disasters to health emergencies, particularly for humanitarian coordination; And strengthen the community level of preparedness and response.

2. Theoretical Foundations

Resilience as the "interactive and dynamic process of adaptation and management" [7], the degree of efficiency of the system in self-organization, the degree of ability to create the system of learning and adaptation, and often as the ability of return is defined [13]. Accordingly, social resistance is an abstract phenomenon that does not exist physically also is a responsive capacity of places and social systems and strategy systemic rebalance theorizing [14]. Social resilience, given the three characteristics of "resistance, improvement and creativity" to "the ability of groups local or communities to deal with external pressures and changing the environment "and refers to three dimensions: 1- capacity building, 2- adaptation capacity and 3- the ability to change capacities [15].

With the evolution of the concept, flexibility and attention were drawn from its initial ecological concept to the social concept of the environment and then to the social concept. Social resilience has been extensively studied in natural resource management, social development, and crisis management. All definitions of social institutions, including individuals, organizations, and societies, relate to social resilience, their abilities to tolerate, absorb, and respond to types of environmental and social threats [16]. It is a flexible social system that can absorb temporary or permanent shocks and adapt quickly to changing conditions without changing stability.

In this context, the corona epidemic (Covid-19) due to transmission of the virus is a serious threat [17] and overshadow hospitals, disrupting and restricting trade access to public places and urban space [18]. The ways to prevent and slow down the transmission of the virus are awareness and education, health, skills, attitudes, social capital, and justice [19]. The main accepted characteristics for resilience in residential fabrics are change threshold, reorganization of resilience capacity, coping or recovery from shock and stress to learn and adapt to it, unit of flexibility exposure, natural ecosystem or human and environmental systems [20] introduced criteria for measuring social resilience that include trust, management, social capital, resident participation, social cohesion and sense of community, division of labour and cooperation, values, required resources.

In terms of risk, most flexibility models include engineered systems. In these frameworks, the flexibility characteristics of infrastructures, frequencies, and

failure rates reduce the likelihood of failure [22]. The new drop model (Fig. 1) is selected from the concepts of crash flexibility, proposed by Cutter et al. [21], and is based on quantitative theory and can represent real problems in real places.

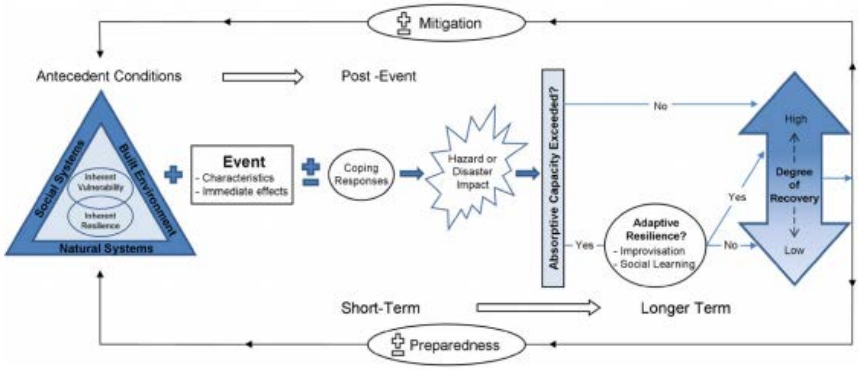

Fig. 1. Spatial resilience models against accidents [21].

3.Methodology

The present study's research method was descriptive-analytical in terms of methodology and applied it in terms of purpose. For collecting the required data, the library method (distribution map of COVID-19, valid books, and papers in line with the research topic) and survey method in the form of a questionnaire and Delphi method were used. The qualitative part included identifying the identified components of potential capacity in the old fabric affecting citizens' social resilience against the risks of Covid-19 in the old city of Najaf by examining the theoretical foundations and Delphi analysis by questionnaire and interviews with experts in the field. Depending on the Delphi goal, scope, time of data collection, and available resources, the number of participants is usually estimated between 10 and 50 people [23]. In the present study, 15 experts who are available and familiar with the subject were used. The available method, including scientific experience, willingness, and ability to participate in research, has been used to sample experts and elites. To determine the validity of the questionnaire from the perspective of 10 professors of urban planning and the field of urban planning were used and the indicators were modified according to the opinion of these professors. Cronbach's alpha coefficient was also used to determine the reliability of the research questionnaire. For this purpose, the questionnaire was pre-tested before reviewing and analysing the findings and the alpha coefficient for research indicators is equal to 0.932. In the quantitative part, using the analysis model of the path analysis method in PLS and SPSS software, the type of components has been determined according to other components' impact and effectiveness.

4. Introduction of the Study Area

Until 170 AH, Najaf was a small village with few houses because until tens of years after the martyrdom of Amir al-Mo'menin in the year 40 AH, the shrine of Motahar was hidden, and Imam Sadegh revealed it. After that, Muslims, especially Shiites,

settled near the shrine of Imam Ali (Fig. 2.), and even after their deaths, they willed that their bodies should not be taken out of Najaf and buried there [24].

Fig. 2. Location of the old fabric of Najaf Ashraf city [24].

5. Analysis of Normal Data Distribution

Based on the results, an appropriate test was selected to check the accuracy of the research hypotheses. According to Table 2, data distribution is normal because the significant level for all components is greater than the error value of 0.05. Therefore, the frequency distribution of the variable items of old fabric capacity and resilience has a normal distribution, and parametric and normal tests can be used to analyse inferential data.

Table 2. Testing normality of data distribution using Kolmogorov–Smirnov test (K–S test).

Indicators	Normal Parameters		Most Extreme Differences			K-S	Sig
	Mean	Std	Absolute	Positive	Negative		
	Old tissue capacity						
Transparency capacity	3.36	0.541	0.082	0.057	0.082	1.471	0.126
Participation capacity	4.14	0.340	0.106	0.073	0.106	1.899	0.101
Legislative capacity	3.63	0.447	0.054	0.054	0.051	0.958	0.317
The capacity for justice	3.13	0.503	0.091	0.091	0.059	1.635	0.110
Response capacity	3.80	0.549	0.109	0.083	0.109	1.958	0.101
Responsibility capacity	3.26	0.531	0.070	0.070	0.052	1.252	0.187
Performance capacity and effectiveness	3.84	0.359	0.093	0.063	0.093	1.566	0.208

Consensus capacity	3.46	0.393	0.070	0.067	0.070	1.259	0.084
Flexibility capacity	3.41	0.487	0.078	0.078	0.065	1.388	0.142
Resilience							
Awareness and health	3.27	0.602	0.080	0.080	0.066	1.436	0.132
Attitude	3.57	0.525	0.101	0.084	0.101	1.808	0.103
Knowledge and skills	3.61	0.629	0.0102	0.071	0.102	1.823	0.203
Social capital	3.39	0.748	0.091	0.091	0.088	1.636	0.109

6. Analysis of Capacity Components of the Old Fabric of Najaf

Studying the indicators showed that among the components of the capacity of the old fabric (Table 3), the participation capacity component gained the highest score (t=9.97). Community participation is considered as one of the fundamental bases regarding prevention, response, control, and containment of crisis in all stages of the crisis management cycle. Without the participation of all the individuals in society, the heavy burden of crisis management is passed on policymakers' shoulders.

In situations where society is facing major crises, the likelihood of success in crisis management is reduced according to the limited capacity of governments (Community-Based Disaster Management) [25]. The extent of the coronavirus pandemic in Iraq's geographical space, along with its countless population exposed to harm and its consequences has led to the use of a community-based approach which is accepted as one of the valuable solutions to deal with the crisis in the world [26]. Governments' ability to deal with disasters is limited, and disaster management can only be achieved through the participation of all the stakeholders in the society, especially all the individuals.

Table 3. Studying the status of spatial capacity components of old fabric of Najaf Ashraf city using one-sample (t-test).

Indicator	T	Sig	Mean Difference	95% confidence interval of the difference	
				Lower	Upper
Transparency capacity	6.45	0	0.36	0.30	0.42
Participation capacity	9.97	0	1.14	1.10	1.18
Legislative capacity	7.69	0	0.63	0.58	0.68
The capacity for justice	5.24	0	0.13	0.07	0.18
Response capacity	7.85	0	0.80	0.74	0.86
Responsibility capacity	5.63	0	0.26	0.20	0.31
Performance capacity and effectiveness	8.99	0	0.84	0.80	0.88
Consensus capacity	7.46	0	0.46	0.41	0.50
Flexibility capacity	6.69	0	0.41	0.36	0.47
Sum	8.44	0	0.56	0.53	0.59

7. Analysis of Resilience of Local Communities

Studying the indicators showed that among the resilience components of local communities (Table 4) in the old fabric of Najaf Ashraf city, the social capital component gained the highest score (t=9.42). In the next ranks, indicators of attitude, awareness, health, and knowledge and skills were placed. These indicators had a moderate state of resilience.

Table 4. Studying the resilience status of local communities using one-sample (t-test).

Indicator	T	Sig	Mean Difference	95 %confidence interval of the difference	
				Lower	Upper
Awareness and health	7.89	0	0.27	0.20	0.33
Attitude	9.27	0	0.57	0.51	0.62
Knowledge and skills	7.31	0	0.61	0.54	0.68
Social capital	9.42	0	0.39	0.31	0.48
Sum	8.74	0	0.46	0.42	0.50

8. Conclusions and Suggestions

The current crisis (Covid-19) is a clear example of an epidemic crisis, which can be considered a global shock and shock, a rapid event with very dangerous consequences covering at least two continents and the outcome. There is a health crisis as well as a social crisis. In the meantime, explaining resilience as one of the new approaches in urban planning against pandemics, especially the corona pandemic (Covid-19) is very important. Thus, in recent decades, globally, there have been dramatic changes in attitudes toward risk. As the prevailing view has shifted from zero focus on reducing vulnerability to increasing resilience to risk. Therefore, the mission of the present article was to explain the spatial capacity of the old fabric in urban resilience against the Covid-19 epidemic in the old city of Najaf Ashraf. The results appear that among the components of "capacity of the old fabric of Najaf", the component of "participation capacity" with a score of (t = 9.97) has the highest score. It must be acknowledged that the position of people's participation in crisis management is undeniable so that the success of a program largely depends on the role of the people and how they are involved in the program. Also, determining the needs wants and prioritization of programs and crisis management plans is not possible except with the people's participation. Therefore, according to research, citizen participation improves crisis management performance.

On the other hand, in recent governance theories, the transition to participatory decision-making, planning, and management is considered a necessity. People, resources, and participation are the basis of sustainable human development. Participation plays a combination of two other factors and is the result of both. The study of resilience indicators showed that among the components of the resilience of local communities in the old fabric of Najaf, the component of "social capital" with a score of (t = 9.42) has been affected by the existing capacities in the old city of Najaf. Mimaki and Shaw [27] conducted a study entitled "Improving the level of community preparedness for Balia using social capital". The results showed that the most important factor to improve community preparedness is the partnership of

the local community with the local government. Kirschenbaum [28] was conducted a study using social networks. The author considered that the basic solution for problems management is to focus on using public resources, i.e., social networks at the micro and large levels appropriate to the situation. Geography can provide a high level of personal preparedness in the face of unusual situations. Aldrich and Meyer [29] showed that one of the important factors in returning to society's normal performance in critical conditions Will be in the community. Raising social capital will help gain social systems' resilience against possible changes by gaining the trust and cooperation, and participation of individuals in planning and policymaking.

Therefore, planners must identify the existing constraints on the realization of social capital at the local level and provide and implement the necessary measures to overcome them. In general, increasing trust and social capital among individuals strengthens communities' resilience to risks and increases adaptability capacity, and reduces vulnerability. Therefore, according to the above, suggestions are made to create resilient societies against the Corona pandemic: Using the scientific activities of professors and students to prevent the Covid-19 pandemic. Covid-19, training and raising the awareness of city managers and administrators and participating in training courses related to exchanging information between people and responsible organizations to increase neighbourhood residents' participation in crisis management programs.

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