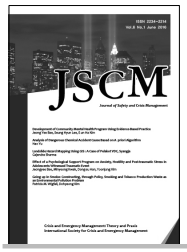

J. Saf. Crisis Manag. Vol.10 No.6, Dec. 2020. pp.29-34
pISSN 2234-2214 / eISSN 2671-5732
http://doi.org/10.14251/jscm.2020.6.29

Journal of Safety and Crisis Management

Strategies for Overcoming the Urban Crisis Using Cultural Assets

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A B S T R A C T

Cities are suffering from massive natural disasters, climate change, diversification of social disasters, increased aging facilities, and the emergence of new disasters such as infectious diseases. Urban governments are required to change their policies to effectively prevent disasters and to provide substantial recovery and relief systems. However, social and economic policy alternatives related to the lives of citizens have not been specific in South Korea. This study suggests that citizens and communities with cultural consensus have a strong sense of pride in the region, and that expanding participation based on it is desirable to overcome urban disasters. According to the analysis results, cultural properties have a low relationship with urban crisis management, and cultural factors do not seem to have much impact on the disaster management processes. This study suggests the creation of new values based on cultural assets, expansion of exchange areas for cultural values and disaster resilience, understanding of culture to reflect regional specificities and differences, linkage between disaster education with culture and arts education, and change in various ways of civic participation.

Key words: cultural asset, urban crisis, disaster resilience, cultural crisis, citizen

Introduction

Disaster safety conditions in our society are deteriorating further, including the massive disaster, climate change, the spread of natural disasters, the diversification of social disasters, the increase of aging facilities, and the emergence of new disasters such as infectious diseases. In response, urban governments should effectively prevent disasters and establish substantial response, recovery and relief systems.

Currently, local communities and citizen participation play an important role in disaster areas. In order to improve the disaster management capabilities of the region, above all, the attitude of cooperation and inclusion of citizens who want to develop the region is necessary. The study argues that citizens' active participation in solving urban problems is based on their strong cultural pride and cultural unity. These cultural attitudes can be attributed to pride in the cultural assets of the city. This paper carried out a practical verification of whether cultural assets in the region are affecting disaster safety capabilities.

Also, this study believes that the management of disasters should be based on an understanding of the lives of citizens and the specificity of the region, and that the cultural assets of cities must be based. This direction should be based on historical consensus

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Received: Dec. 19, 2020 / Revised: Dec. 29, 2020 / Accepted: Dec. 29, 2020

that reflects the city's past, present and future stories, and this identity can be found in the city's cultural assets. Recent studies on urban resilience include pre-crisis stability, new levels of adaptability, community recovery and sustainability. This discussion of resilience also emphasizes citizens' consensus, participation, and activities.

This study conducted an empirical analysis of whether cultural assets perform these roles and factors that affect disaster management. Based on these processes, the purpose of this study is to verify the impact of cultural assets and influencing factors on disaster management, and to present a disaster management strategies and directions based on the cultural assets of urban governments.

Theoretical Discussions

The culture of a society is a collection of values, attitudes, and customs shared by its members and an overall lifestyle expressed by the communities. Culture is leading the growth of society by creating various new values. This study aims to have a comprehensive approach to cultural assets, including cultural facilities and various cultural activities.

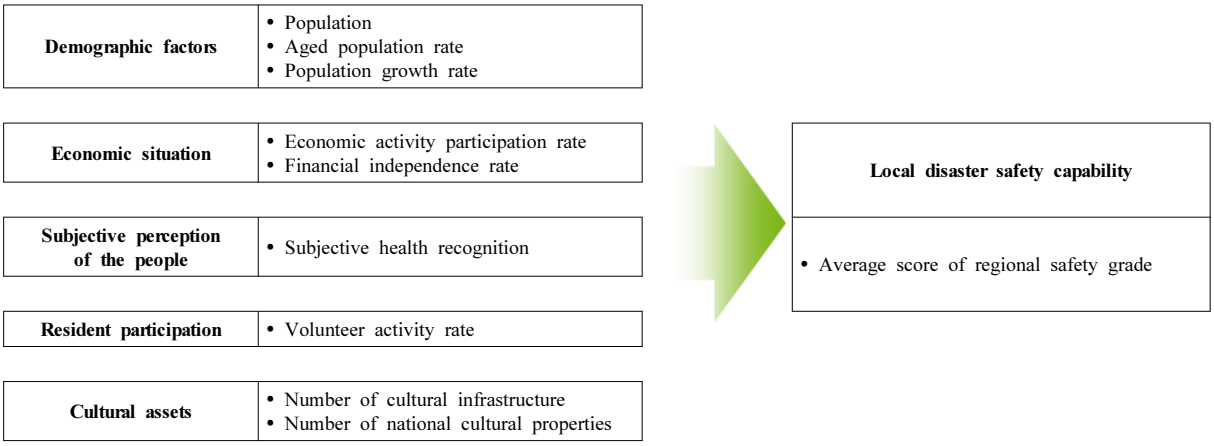
Prior researches related to this study consist mainly of discussions on economic contribution of cultural activities, the relationship between citizen participation and regional development, and the importance of disaster management through public-private cooperation, and resilience.

First, there are papers on the link between culture and urban economic development. Research on urban growth through culture can be found in various fields. The themes of the studies on the relationship between culture and urban policy are mainly about economic influences. In these papers, culture is an essential requirement for improving the competitiveness and quality of life of cities and shows that it is actually affecting local and national economies (Choi, 2012; Shim, 2013; Yeom & Lee, 2011; Kim, 2009; Choi, *et. al.*, 2016).

Second, there are papers on citizen participation and community activities in cultural projects such as village creation projects and regional festivals. These papers emphasize the importance of the performance of cultural projects based on the diverse social participation of citizens and local communities (Kim, 2008; Min, 2013; Shin, 2012; Nam, 2019).

Finally, there are papers on citizen participation in the disaster management various processes. These papers suggested autonomous citizen participation and leadership in disaster management, the importance of citizens' cooperation in disaster response and recovery processes, disaster recovery through social trust, practical formation of disaster-resistant local communities, and community recovery in disaster-hit areas (Chang & Kim, 2016; Kwon, 2005; Sim, *et. al.*, 2018; Yang, 2009; Cho & Bae, 2017; Kim, *et. al.*, 2020; Yim, 2020).

Third, there are studies on urban disaster resilience. The recent emphasis on disaster-related resilience has been extended from social and ecological fields to regional and urban areas and applied to disaster management policy areas. This does not mean a mere return to the previous condition, but rather a concept that ensures pre-crisis safety and adaptability to the changed environment, and includes a new level of transition capability in the future. The concepts of resilience presented in these studies include the absorption of disaster-related chaos and risks, the restoration of organizations and communities before a disaster, the active response to risks, and the maintenance of the sustainability of adaptability (Lee, 2018; Lee, 2019; Kim & Park, 2019; Kim & Lee, 2018; Kang, 2014; Kwon & Ryu, 2018; Yang, 2016).



<Figure 1> Research model

As discussed so far, papers on culture, citizen participation, and disaster resilience have been found. However, papers on the direct link between disasters and cultural assets were difficult to find.

Empirical Analysis

Empirical analysis conducted a correlation analysis and multiple regression analysis on small and medium-sized 55 cities in South Korea that were declared Special Disaster Areas from 2014 to 2020 (<Table 1>).

The importance of citizen participation in the process of regional development utilizing culture was suggested in prior studies. In addition, the need for disaster resilience through community activities was confirmed. This study suggests that cultural assets can promote attachment and community activities to citizens. Therefore, in this paper, it was intended to verify whether cultural assets and citizen participation in local cities are actually affecting disaster management.

In this study, cultural assets are limited to cultural facilities and cultural properties, but these are set as variables in that they are the basis of cultural activities. Cultural assets that contain historical stories remind citizens of their identity in the region.

The analysis model included citizen participation and cultural assets as key variables to verify the relationship. Currently, types of citizen participation in disaster management precesses are mostly through participation in disaster volunteer activities in the recovery and relief stages. In addition, the research model included demographic and economic variables generally recognized as major factors in disaster management in urban areas.

The data were collected by the National Statistical Information Service as of 2019, excluding the number of cultural infrastructures (2018). The regional safety grade, the dependent variable, is used to provide the public with information on the safety of the area they live in or intend to live in by showing the safety rating of the region by disaster, accident, disease management, etc (Grade 5 assessment of 5 categories of traffic accidents, fires, crimes, safety of life, suicide, and infectious diseases). Grade 5 is the most dangerous level. Data analysis was performed using SPSS 25.

As a result of correlation analysis, only the total population of the city showed correlation with the disaster safety rating, and other variables did not have correlation. The individual correlation of the variables showed that the larger the elderly population and the more people participating in economic activities, the higher the awareness of health and the regional efforts to have cultural infrastructure. Population growth rate and financial independence rate are closely related, and a lack of cultural facilities may occur in these areas. Unfortunately, unlike expectation for the results,

<Table 1> Special disaster zone declaration area (2014-2020)

	Disaster	Declaration date	Area(small and medium city)
2014 (2 cases)	Sinking of MV Sewol	4.21.	GyeongGi-do(Ansan), Jeollanam-do(Jindo)
	Heavy rain	9.5.	Gyeongnam-do(Changwon, Goseong)
2016 (2 cases)	Earthquake	9.22.	Gyeongsangbuk-do(Gyeongju)
	Typhoon Chaba	10.10. 10.17.	Gyeongsangbuk-do(Gyeongju), Gyeongnam-do(Geoje, Tongyeong, Yangsan)
2017 (2 cases)	Heavy rain	7.27.	Chungcheongbuk-do(Cheongju, Goesan), Chungcheongnam-do(Cheonan)
	Earthquake	11.20.	Gyeongsangbuk-do(Pohang)
2018 (3 cases)	Typhoon Prapiroon and Heavy rain	7.18.	Jeollanam-do(Boseong)
	Typhoon Soulik and Heavy rain	9.17.	Jeollanam-do(Wando), GyeongGi-do(Yeoncheon), Gyeongnam-do(Hamyang)
	Typhoon Kong-rey	10.24.	Jeollanamdo(Goheung, Wando), Gyeongsangbuk-do(Yeongdeok, Gyeongju), Gyeongnam-do(Geoje)
2019	Forest fire	10.6.	Gangwon-do(Goseong, Sokcho, Gangneung, Donghae, Inje)
2020	Heavy rain	8.7.(First), 8.13.(Second), 8.24.(Third)	(First) GyeongGi-do(Anseong), Gangwon-do(Cherwon), Chungcheongbuk-do(chungju, Eumseung, Jecheon), Chungcheongnam-do(Asan, Cheonan) (Second) Jeollanamdo(Gokseong, Gurye, Naju, Damyang, Younggwang, Jangseong, Hampyeong, Hwasun), Jeollabuk-do(Namwon), Gyeongnam-do(Hadong, Hapcheon) (Third) GyeongGi-Do(Icheon, Yeoncheon, Gapyeong), Gangwon-Do(Hwacheon, Yanggu, Inje), Chungcheongbuk-do(Yeongdong, Danyang), Chungcheongnam-do(Geumsna, Yesan), Jeollabuk-do(Wanju, Jinan, Muju, Jangsu, Sunchang), Gyeongnam-do(Sancheong, Hamyang, Geochang)

※ Source: 2015 No special disaster zone declaration.

<Table 2> Correlation analysis

		Population	Aged population rate	Population growth rate	Economic activity participation rate	Financial independence rate	Subjective health recognition	Volunteer activity rate	Number of cultural infrastructure	Number of national cultural properties	Average score of regional safety grade
Population	Pearson Correlation	1	-.675**	.416**	-.423**	.739**	-.300*	-.148	-.528**	.143	-.344*
	Sig. (2-tailed)		.000	.002	.001	.000	.026	.280	.000	.297	.010
Aged population rate	Pearson Correlation	-.675**	1	-.578**	.546**	-.823**	.417**	.199	.468**	-.088	.254
	Sig. (2-tailed)	.000		.000	.000	.000	.002	.146	.000	.522	.061
Population growth rate	Pearson Correlation	.416**	-.578**	1	-.354**	.604**	-.077	-.054	-.554**	.199	.156
	Sig. (2-tailed)	.002	.000		.008	.000	.575	.694	.000	.145	.256
Economic activity participation rate	Pearson Correlation	-.423**	.546**	-.354**	1	-.483**	.370**	.081	.514**	-.172	-.042
	Sig. (2-tailed)	.001	.000	.008		.000	.005	.555	.000	.210	.762
Financial independence rate	Pearson Correlation	.739**	-.823**	.604**	-.483**	1	-.388**	-.189	-.594**	.118	-.233
	Sig. (2-tailed)	.000	.000	.000	.000		.003	.167	.000	.393	.087
Subjective health recognition	Pearson Correlation	-.300*	.417**	-.077	.370**	-.388**	1	-.019	.263	-.238	.048
	Sig. (2-tailed)	.026	.002	.575	.005	.003		.889	.052	.080	.731
Volunteer activity rate	Pearson Correlation	-.148	.199	-.054	.081	-.189	-.019	1	.032	-.070	.159
	Sig. (2-tailed)	.280	.146	.694	.555	.167	.889		.817	.611	.247
Number of cultural infrastructure	Pearson Correlation	-.528**	.468**	-.554**	.514**	-.594**	.263	.032	1	-.183	.054
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.052	.817		.180	.696
Number of national cultural properties	Pearson Correlation	.143	-.088	.199	-.172	.118	-.238	-.070	-.183	1	.209
	Sig. (2-tailed)	.297	.522	.145	.210	.393	.080	.611	.180		.125
Average score of regional safety grade	Pearson Correlation	-.344*	.254	.156	-.042	-.233	.048	.159	.054	.209	1
	Sig. (2-tailed)	.010	.061	.256	.762	.087	.731	.247	.696	.125	

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

there were no variables that were related to volunteer work and cultural assets (<Table 2>).

In this study, multiple regression analysis was conducted to assess the relationship between dependent and independent variables. The analysis shows that only “population” was correlated with the dependent variable at 95% confidence level (<Table 3>).

Based on the analysis results, cultural assets have a low relationship with urban disaster management, and cultural factors do not seem to have a significant impact on the city's willingness to recover from disasters. Cultural assets can play a very important role, but according to the analysis, the utilizations of cultural factors in the disaster management process are very poor level.

Discussion and Conclusion

Based on the results of this study, the proposed strategies for utilizing cultural assets in cities are suggested as follows.

First, cities should create values by enabling citizens to realize their own identity based on cultural assets. The city of the future is a city where citizens themselves share social, cultural, economic and artistic values. Urban governments should reflect creative alternatives to the various disaster management policies of citizens. Values from these cultural assets will emerge as active community models for solving local issues and problems, such as overcoming disasters through the formation of civic consensus. By meeting through these cultural assets, expanding communication, and partic-

<Table 3> Multiple regression analysis (Coefficients)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.957	1.212		4.089	.000
Population	-6.982E-7	.000	-.324	-1.737	.089
Aged population rate	.022	.014	.391	1.615	.113
Population growth rate	.222	.078	.498	2.832	.007
Economic activity participation rate	-.030	.019	-.251	-1.614	.113
Financial independence rate	-.003	.010	-.066	-.261	.796
Subjective health recognition	-.006	.009	-.099	-.675	.503
Volunteer activity rate	.004	.007	.073	.588	.559
Number of cultural infrastructure	.006	.008	.117	.681	.499
Number of national cultural properties	.002	.002	.159	1.235	.223

a. Dependent Variable: Average score of regional safety grade

ipating in cultural programs and projects, citizens will be able to create a community foundation for cooperation and inclusion that can help each other. Also, citizens will be able to take pride in the area where they live. As a result, cultural assets can serve as a link between a network of trust and cooperation for overcoming disasters.

Second, disaster management of cities should reflect regional specificity and differentiation. These can be found in cultural differences. Creative urban regeneration through urban cultural assets is already underway in various fields. Furthermore, strengthening the competitiveness of cities based on regional creativity has led to the nation's competitiveness. Giving new values to local cultures and establishing policies in various ways are the main current trends of urban growth. Culture has an important meaning as a means of welfare, and will not be different in strengthening disaster capabilities. The reasons for the inability to utilize culture in cities are the ambiguity of the entity, lack of experience of the residents, abstraction of performance, and lack of professionalism. Therefore, efforts will be needed to understand and share the nature of local culture, strategies and concrete action plans for utilization, and cooperation and rationalization of decision making. Citizens and local communities should also cooperate for disaster management that reflects regional characteristics and differentiation. These activities will contribute to the growth and development of the region in conjunction with community-oriented restoration projects.

Third, urban governments will be able to link citizens' disaster-enhancing education programs with cultural and artistic programs. Currently, disaster education programs for citizens are very insufficient and the participation rate is low. Various methods of education and training should be presented so that citizens can actively participate and feel interested. Currently, citizen participation in the disaster management processes are centered on disaster volunteer activities. Therefore, the expansion of the areas where citizens can participate should be found in cultural activities. In order to increase practical effects, disaster education must overcome limited space and time problems. Civil disaster education should reflect a cultural approach to participation anytime, anywhere.

Finally, citizens will have to form a consensus of communication through cultural assets, worry about community problems, and create new cultural assets based on shared experiences and interests. The cultural network currently being utilized will play an important role in disaster management. Now, a desirable regional safety system should be established to find solutions to overcoming disasters in a cultural network with citizens.

Until now, it has been difficult to find analytical papers on the direct impact and relationship between disasters and cultural assets. Therefore, this paper is meaningful in that it was an attempt to verify direct links to cultural assets and disaster management. However, the variables lack descriptive power because the analysis data are limited. In the future, empirical studies based on more practical data will have to be carried out.

Acknowledgement

This work was supported by Incheon National University Research Grant in 2016.

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