# Content Analysis on Urban Heritage Resilience in The Covid-19 Era

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# **Article History**

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#### **Abstract**

Cities are currently facing many difficulties and challenges from the effects of climate change, population growth, infrastructure, cyber attacks, to disease outbreaks. The Malioboro area is a tourist, cultural, and economic center in Yogyakarta. The Malioboro area is also one of the cultural heritage areas in the Special Region of Yogyakarta based on the Governor's Decree No. 186/2011. The Covid-19 pandemic is a newly discovered type of coronavirus which is a new virus and disease that was previously unknown before the outbreak in Wuhan, China, in December 2019 and did not take long to spread to all corners of the world (WH0,2020)., including in the cultural heritage area. This paper raises research on the resilience of cultural heritage to hazards in cultural heritage areas with the aim of research as an effort to preserve cultural heritage areas with the method used is Content Analysis by collecting literature studies related to the extent to which Urban Heritage Resilience has developed to date. especially in the face of the Covid-19 pandemic.

Keywords: Content Analysis; Covid-19; Malioboro; Urban Heritage Resilience

# Introduction

Cities are facing more and more difficulties and challenges nowadays, from the effects of climate change, population growth, inadequate infrastructure, cyber attacks, to disease outbreaks. 100 Resilient Cities defines that "resilient is what helps cities adapt and transform in the face of these challenges, helping them prepare for the expected and the unexpected" (100RC, 2020).

In this case, the concept of 'resilience' will help the city to organize, change for the better, and prepare itself to face any challenges, both anticipated and unexpected. 100 Resilient Cities according to 100 Resilient Cities also defines Urban Resilience as "the capacity of individuals, communities, coordination, business, and systems of a city to be able to survive, cope, and grow against continuous

Correspondence: Dino Ramandha Ashari Department of Architecture, Universitas Islam Indonesia E-mail: 19922002@students.uii.ac.id pressure (stress) and major shocks (shock) issued.

The process of urbanization has made cities an increasingly vulnerable location (David Satterthwaite, 2013). The process of increasing urbanization creates a massive physical and population concentration in urban areas. The year 2009 was a time when the world's total urban population had the same number as the rural population (HABITATIII, 2015). As a process of building city resilience, it is necessary to look at, examine, and support the city as a whole (holistic) by discussing the systems that work and structure the city, the interrelationships that require the system, and the possibilities it faces. By ensuring that these systems can cope with the potential stresses and shocks that will overcome them, a city will be able to plan its development in a better direction. Only one kind of stress (stress) and / or shock (shock), many cities in the world avoid the combination of these challenges which results in the weakness of the city's 'resilience' (100RC, 2020).

The Malioboro area itself is located in the city of Yogyakarta. Administratively, part of the Malioboro area is divided into two sub-districts, namely the Danurejan sub-district in the eastern part of the district and the Gedong tengen subdistrict on the western part of the Malioboro street and is included in the district of Yogyakarta city. The Malioboro area is a tourist, cultural, and economic center in Yogyakarta. The Malioboro area is also one of the cultural heritage areas in the Special Region of Yogyakarta based on the Governor's Decree No. 186/2011 there are 6 (six) Cultural Conservation Areas that have been defined, namely Kotagede, Keraton, Malioboro, Pakualaman, Kotabaru, and Imogiri (LKJ, 2014). According to Law No. 11 of 2010 concerning Cultural Conservation, "Cultural Conservation is a cultural heritage that is material in the form of Cultural Conservation Objects, Cultural Conservation Buildings, Cultural Conservation Structures, Cultural Conservation Sites, and Cultural Conservation Areas on land and/or in water that need to be preserved because of their existence. have important values for history, science, education, religion, and/or culture through the determination process".

The cultural heritage area is also not spared from urban development, the Special Region of Yogyakarta (DIY) is home to 3.84 million people, 70% of them in urban areas (Central Bureau of Statistics, 2019). This very high population density can lead to continued population growth, increased urbanization, economic crises, natural disasters and disease outbreaks (Agudelo-Vera et al., 2012; Desouza & Flanery, 2013; Folke, 2006). These pressures lead to, among other things, ecosystem-service degradation, augmentation of natural hazards and changes in socio-economic development (Walker & Salt, 2006).

The definition of disaster is formally stated by the Center for Research on the Epidemiology of Disasters (CRED). This institution defines a disaster as a situation or event that requires local government capabilities, requires national and international assistance or at least two international agencies or assistance groups as well as national, regional and international media. The Center for Research on the Epidemiology of Disasters (CRED) also notes the following disaster criteria: Number of fatalities is 10 or more, Number of people affected is 100 or more, There is an emergency

declaration/announcement by the state or local government, Requires international assistance (BPBD, 2017).

Another definition is given by an international agency under the United Nations that handles disasters internationally, namely The United Nations Office for Disaster Risk Reduction (UNISDR). The Institute defines a disaster as a serious disruption of the functioning of a society involving widespread human, material, economic or environmental losses and impacts, which exceed the capacity of the affected community or society.

The COVID-19 pandemic has become very severe since the crew in 2020, it was noted at the time of this study that WHO data reported that more than 1 million cases of COVID-19 had been confirmed worldwide in April 2020, the increase was faster in less than a month (WHO, 2020). This paper raises research on the resilience of cultural heritage to hazards in cultural heritage areas with the aim of research as an effort to preserve cultural heritage areas and the extent to which the approach to urban cultural resilience with the method used is Content Analysis by collecting literature studies related to the extent to which Urban Heritage Resilience has been developed to date. right now, especially in the face of the Covid-19 pandemic

#### Literature Review

Urban resilience is critical for Cities in the face of more and more difficulties and challenges today be it the impact of climate change on the growth of the migrant population or inadequate infrastructure against a pandemic. 100 Resilient Cities defines resilience as what helps cities adapt and change in the face of these challenges, helping them prepare for unexpected dangers (100RC, 2020). Urban resilience is a concept that is often debated in influencing the urban development paradigm, but urban resilience in a meaningful and contextual way must be emphasized so that it can be applied in urban planning and design to be applied in socio-ecological systems (Novi Maulida, 2018). Urban resilience can also be defined as the ability to anticipate, understand, and absorb potential damage due to managing or maintaining certain basic functions and structures (Krisnantara & Roychansyah, 2021).

Urban resilience as the capacity of individuals, communities, institutions, businesses and systems within cities to survive, adapt, and grow no matter what kind of chronic stresses and acute shocks they experience. (100RC, 2020).

While Urban Heritage is an important component that plays a role in shaping the character, identity and image of the city, which shows the social and intellectual conditions, covering the past, present and future, and is seen as an impression of the patterns and behavior of local communities. (Petronela, 2016). Material and intangible cultural heritage is a source of social bonding, diversity, and a driving force for creativity, innovation and urban regeneration—we must do more to take advantage of these advantages(UNESCO, 2013)

The Covid-19 pandemic that began to spread at the time this research was conducted became an infectious disease caused by a newly discovered coronavirus. This is a new virus and previously unknown disease before the outbreak in Wuhan, China, in December 2019 (WHO, 2020). Most people infected with the COVID-19 virus will experience mild to moderate respiratory illness and recover without requiring special treatment. The best way to prevent and slow the transmission of the COVID-19 virus is to protect yourself and others from infection by washing your hands or using an alcohol-based hand rub and not touching your face. The COVID-19 virus is spread mainly through droplets of saliva or out of the nose when an infected person coughs or sneezes, so it's also important to practice respiratory etiquette.

Indonesia is no exception, especially the Malioboro area, Special Region of Yogyakarta. Malioboro is one of the tourist, cultural, and economic centers in Yogyakarta. The Malioboro area is also one of the cultural heritage areas in the Special Region of Yogyakarta based on the Governor's Decree no. 186/2011. The Malioboro area is a landmark of the city of Yogyakarta and at the same time one of the main destinations for tourists who come to the city of Yogyakarta (Nisa, 2014). Being a complex urban area makes the importance of institutions in aspects of environmental development in urban areas, and elements of urban resilience must be incorporated into policy formulation, particularly in the context of urban growth (Ni'mah & Setiawan, 2021). population growth of the city of Yogyakarta is 427 thousand, 11% of the total population of DIY, which is an increase of 1.18% from the previous year (Badan Pusat Statistik, 2014). As one of the cities with a large population and as one of the urban cultural heritage areas in Indonesia in overcoming or responding to the pandemic that has just spread.

# Methodology

Content analysis is used to obtain information from the communication conveyed in the form of a documented symbol or can be documented. Content analysis can be used to analyze all forms of communication, such as in newspapers, books, films, and so on. By using the content analysis method, it will obtain an understanding of the various contents of communication messages conveyed by the mass media or from other sources in an objective, systematic, and relevant manner (Subrayogo, 2001). The method used is qualitative using secondary data, primary data is only visual field observations so that it can produce conclusions about urban resilience in cultural heritage areas. The primary data obtained was limited to visual field observations, while the secondary data was obtained by investigation by analyzing the contents of previous books, regulations, and journals that studied the Malioboro area and urban heritage resilience.

The place of research was carried out in the Malioboro cultural heritage area, Yogyakarta, with primary and secondary data collection methods, primary data obtained were only limited to visual field observations, while secondary data was obtained by investigation by analyzing the contents of books, regulations, and previous journals published in the study. learn about the Malioboro area and urban heritage resilience. This study also uses a descriptive method using a qualitative research design and a literature study of Urban Heritage Resilience as the object, using content analysis techniques.

#### Result and Discussion

#### Systematic Review of Urban Resilience

100 Resilience City defines building urban resilience as requiring looking at cities

holistically: understanding the systems that make up cities and the interdependencies and risks they may face. By strengthening the basic fabric of a city and better understanding the potential shocks and stresses it may face, a city can improve its development trajectory and the well-being of its citizens.

Tabel 1.1 100 Resilience City, Urban Pressure

Chronic Stresses	Acute Shocks
Unemployment	• earthquake
<ul> <li>inefficient public</li> </ul>	• flood
transport system	
<ul> <li>endemic violence</li> </ul>	<ul> <li>epidemic of a disease</li> </ul>
<ul> <li>deficiency food</li> </ul>	<ul> <li>terrorist attack</li> </ul>
and water	

Source: 100 Resilience City

Extensive research and evaluation of city experiences around the world reveals a common set of factors and systems that enhance cities' ability to survive, adapt and grow in the face of adversity. The City Resilience Framework (CRF) is the product of work to help understand the complexity of cities, and identify the set of drivers needed for city resilience (100RC, 2020).

Tabel 1.2 100 Resilience City, Indicators and variables in the assessment of Urban Resilience based on the City Resilience Framework (CRF).

#### Indicator

- · Health & Welfare
- Economy & Society
- Infrastructure & Environment
- · Leadership & Strategy

Source: 100 Resilience City

The United Nations Office for Disaster Risk Reduction (UNISDR) defines disaster management as covering a number of organizational, planning and implementation activities that address the steps for preparing for, responding to and recovering from a disaster (UNISDR, 2015).

This indicator is used to understand the timeframe, scale and assessment of disaster risk which will help identify the level of disruption or damage per sector in critical infrastructure and basic services, at extensive and intensive risk for impending hazards (Etinay et al., 2018). Readiness to build urban resilience is analyzed based on Priorities that enhance disaster preparedness for effective response

in recovery, rehabilitation and reconstruction' (UNISDR, 2015).

Tabel 1.3 Indicators and variables in the assessment of Urban Resilience based on The United Nations Office for Disaster Risk Reduction.

Disaster risk reduction (DRR)	Disaster risk management (DRM)
<ul><li>Risk identification</li><li>Financial protection</li><li>Risk reconstruction</li><li>Preparedness</li></ul>	<ul><li>Prevention</li><li>Mitigation</li><li>Transfer</li><li>Preparedness</li></ul>

Source: The United Nations Office for Disaster Risk Reduction

HABITAT III defines the concept of resilience as aspirational and operational, resilience is also emerging as a central theme of urban development serving as the basis for a wide range of strategic interventions and investments among the world's leading development agencies and within the humanitarian community. By focusing on how individuals, communities and businesses not only cope with the face of some shocks and stresses, but also realize opportunities for transformational development (HABITATIII, 2015). The Urban Systems Model The HABITAT Approach can be defined as the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, change and recover from the impacts of hazards in a timely and efficient manner, including through the preservation and restoration of their basic structures and functions. important through risk management (HABITATIII, 2015)

Tabel 1.4 Indicators and variables in the assessment of Urban Resiliencebased on HABITAT III.

#### Indicator

- Natural
- Technological
- Sosio-economi-political

Source: HABITAT III

Urban Disaster Resilience Index (UDRI) an assessment model based on the Climate Disaster Resilience Index (CDRI) introduced by the International Disaster and Environmental Management Laboratory of the Kyoto University Graduate School of Global Environmental Studies, Japan in 2008. The UDRI Urban Disaster Resilience Index measures urban disaster resilience taking into account five dimensions: physical, social, economic, institutional and natural. (Kabir et al., 2018).

Tabel 1.5 Indicators and variables in the assessment of Urban Resilience are based on the Urban Disaster Resilience Index (UDRI).

#### Indicator

- Physical Resilience
- Social Resilience
- Fconomic Resilience
- Institutional Resilience
- Natural Resilience

Source: Urban Disaster Resilience Index

Pressure and Release An urban resilience model proposed by Blaikie (2003). The Pressure and Release model explains that disasters are not only natural events, but also the product of the social, political and economic environment, because these are very influential in the arrangement of people's lives (Norman Blaikie, 2003). This approach also looks at indicators by state, threshold, and scale, which are in line with the objective of a comprehensive examination(Sofian Winata et al., 2017).

Tabel 1.6 Indicators and variables in the assessment of Urban Resilience based on the Pressure and Release Model.

#### Indicator

- Root Causes
- Dynamic Pressures
- Unsafe Conditions
- Hazards

Source: Pressure and Release

### Systematic Review of Urban Heritage

Urban heritage is an important component that plays a role in shaping the character, identity and image of the city, which shows the social and intellectual conditions, covers the past, present and future, and is seen as an impression of the patterns and behavior of the majority of local people (Petronela, 2016). The concept of heritage or cultural heritage comes from physical and non-physical elements including sentimental values, which confirmed by official regulations so that people can know, learn, maintain, and access these heirlooms (Versaci, 2016). Resilience Cultural heritage areas demonstrate the importance of a heritage in urban resilience, both as an element to protect and maintain, but as an element that can lead to increased resilience (Amico & Currà, 2014).

In Indonesia, cultural heritage is regulated in Law Number 11 of 2010, which defines that

cultural heritage is cultural heritage that is material on land and/or in water that needs to be preserved because it has important values for history, science, education, religion, and/ or culture through the determination process. Material and intangible cultural heritage is a source of social bonding, diversity, and a driving force for creativity, innovation and urban regeneration - we must do more to take advantage of these advantages (UNESCO, 2013). Urban heritage is a key resource in improving the livability of urban areas by promoting economic development and social cohesion in a changing world and involving more people in conservation efforts, raising awareness, and seeking innovative schemes. By actively involving the public, private and community sectors of the city, historic and contemporary, it will be preserved and appreciated. (UNESCO, 2013)

# **Systematic Review Covid-19**

The World Health Organization has issued a Global Strategy for Responding to COVID-19, with the aim of all countries controlling the pandemic by slowing down transmission and reducing the number of deaths associated with COVID-19. The global strategic objectives are as follows:

- Mobilize all sectors and communities
- Case control
- Suppress community transmission
- · Reducing mortality
- · Developing vaccines

According to the World Resources Institute (WRI) the COVID-19 pandemic demonstrates two inescapable facts about our new reality: we are more connected than ever, and cities are at the forefront of this crisis and will be at the forefront of any similar global crisis in the world. future. The World Resources Institute (WRI) is a global research organization that works with Country leaders to turn big ideas into action to protect natural resources, the foundation of economic opportunity and human well-being, focusing on seven critical issues in the environment and development: climate, energy, food, forests, water, cities and oceans (Schuyler Null, 2020)

Since first appearing in Wuhan, China, the novel coronavirus and the disease it causes, COVID-19, have killed thousands of people in

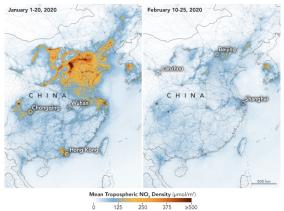
major urban centers around the world. After the case was widespread in China, the Chinese government also took lockdown measures. then the lockdown spread to Europe, to be precise in Italy. Denmark follows a one-country lockdown. Several other countries eventually locked themselves in, such as Spain and Ireland. The Southeast Asian country that has also implemented a lockdown is the Philippines. Each country imposes a different lockdown. Italy urges its citizens to stay at home. Most nightclubs, restaurants, schools, colleges, and cinemas have stopped working. Restaurants that are open must close by 6pm and take-out food. The government also prohibits citizens from traveling, especially abroad if there are no urgent or family matters.

But cities are not only at the forefront of responding to a pandemic, they are also likely to see the changes taking place, from physical form to economic and societal structure. Urban planning has been shaped by infectious diseases for thousands of years. As governments, doctors and the public work to tackle this pandemic it is likely that some policy and behavior changes will impact the way we live in cities for years to come. Here are four ways cities are working to combat the spread of disease now according to the World Resources Institute (WRI):

- Restricting Access Travel restrictions, both local and international, are the clearest changes to how cities function around the world.
- Fortifying Public Transit Systems, After a study in Hubei showed how COVID-19 spreads from one person to nine during a single long-distance bus journey, bus operations – where they are still running – are being adjusted to help prevent the spread of the virus.
- Creating Alternatives to Public Transit, As people avoid crowds and movement is restricted, cities report that public transport has fallen sharply. Istanbul revealed a nearly 50% drop in public transport passengers - more than 2 million passengers - during the first three weeks of March.
- Providing Radical Data Transparency, When infections in South Korea surged in Daegu city, the country

implemented an open data strategy and public participation.

Figure 1. China nitrogen dioxide concentration map Source: Handout Nasa/EPA/ https://www.theguardian.com/



Travel restrictions have far-reaching impacts on productivity, air pollution and carbon emissions. In China, the pandemic has caused a 15-40% reduction in the output of key industries, leading to an approximately 25% reduction in carbon emissions. Satellite data captures a stark shift in air pollution levels across China and Italy when the restrictions were imposed. Given the association between urban air pollution and premature death, some preliminary calculations even suggest that changes in air quality may have broadly positive effects on the health of the very young and the very old.

#### **Systematic Review of Malioboro Area**

Malioboro is one of the tourist, cultural, and economic centers in Yogyakarta. The Malioboro area is also one of the cultural heritage areas in the Special Region of Yogyakarta based on the Governor's Decree No. 186/2011. Because it is one of the most historic places in the city of Yogyakarta, the Malioboro area has also often been the subject of research by researchers. In this section the author has reviewed several studies in the Malioboro Area

Figure 2. Malioboro Area Map Source: Google.com/maps



Kawasan Malioboro

The Malioboro area is a landmark of the city of Yogyakarta and at the same time one of the main destinations for tourists who come to the city of Yogyakarta (Nisa, 2014). The population growth of the city of Yogyakarta is 427 thousand, 11% of the total population of DIY, which is an increase of 1.18% from the previous year (Badan Pusat Statistik, 2014). Based on the results of a systematic review of the Malioboro area, many previous studies have discussed the development of the malioboro area, the history of the malioboro area, the history and development of the malioboro road, the development strategy of the malioboro area, accessibility and performance of the malioboro area facilities.

#### The City's Response to the Pandemic

The World Health Organization (WHO) officially recommends and encourages the use of the phrase physical distancing which means "maintaining physical distance" instead of the use of the phrase social distancing (maintaining social distance), WHO changed the phrase to recommend "physical distancing" instead of "social distancing" to encourage people to stay connected through social media. After the case was widespread in China, the Chinese government also took lockdown measures, then the lockdown spread to Europe, to be precise in Italy. Denmark

follows a one-country lockdown. Several other countries eventually locked themselves in, such as Spain and Ireland. The Southeast Asian country that has also implemented a lockdown is the Philippines (Hanif Gusman, 2020). In this section, the author presents the results of the analysis of literature studies and the latest articles in 2020 related to handling cities in the face of the Covid-19 pandemic. Each country enforces a different lockdown. China, since it first appeared in Wuhan, China, the new coronavirus and the disease it causes COVID-19, have killed thousands of people in major urban centers around the world. After the cases spread in China, the Chinese government also implemented lockdown measures. The streets of Wuhan. China, are deserted after the government imposed a strict lockdown. Satellite imagery also shows no vehicles passing in front of the train station. This condition occurred after the local government closed access to trains and other intercity public transportation access due to the corona virus outbreak (Hanif Gusman, 2020).

Figure 3. Satellite photo of the condition of Wuhan City before and during the corona virus outbreak.

Source: Planet Labs Inc/ via REUTERS/www.msn.com/



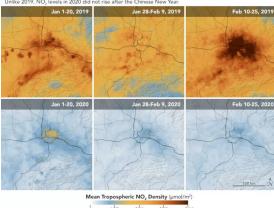


In the city of Wuhan where the deadly virus was first identified, experiencing a 44% drop in air pollution levels from February 26 to March 18 from the same period last year, emissions fell 25% at the start of the year as people were ordered to stay at home, factories closed and use coal fell 40% at six of China's largest power plants since the last quarter of 2019. The proportion of days with "good quality air" rose

11.4% compared with the same time last year in 337 cities across China, according to the Ministry of Ecology and Environment (https://graphics.reuters.com/, 2020)

Figure 4 Pollution reduction in China Source: NASA/ https://www.bbc.com/

Pollutant Drops in Wuhan—and Does not Rebound Unlike 2019, NO<sub>2</sub> levels in 2020 did not rise after the Chinese N



Travel restrictions have far-reaching impacts on productivity, air pollution and carbon emissions. In China, the pandemic has caused a 15-40% reduction in the output of key industries, leading to an approximately 25% reduction in carbon emissions. Satellite data captures stark changes in air pollution levels across China India, New Delhi which is included in the list of the most polluted cities in the world, the effects of this pandemic caused a 60% decrease in air pollution levels from March 23 - April 13 from the same period in 2019. India is one of the most polluted countries in the world and the average population Average exposure to air pollution that exceeds the World Health Organization's target for annual PM2.5 exposure by more than 500%. Both New Delhi and India's commercial hub Mumbai experienced their best air quality in 2020 (BBC, 2020).

Figure 5 India 3 November 2019(left ) and 30 March 2020(right)

Source: https://www.bbc.com/



The Indian government is also taking great steps to reduce the impact of the widespread infection in India. all monuments under the Archaeological Survey of India (ASI) will remain closed. The Archaeological Survey of India is an Indian government agency attached to the Ministry of Culture which is responsible for archaeological research and conservation and preservation of cultural monuments. There are around 3,000 monuments under ASI which include the Taj Mahal, Qutub Minar and the Red Fort as well as several UNESCO world heritage sites such as the Ajanta Caves and Hampi (FE, 2020).

Tabel 1.7 Types of Pandemic Responses in China, India and Indonesia (Malioboro) in 2020

China	India	Indonesia
Lockdown     Road     closures are     implemented     after a strict     lockdown	Lockdown and closed all Archaeological Survey of India (ASI) monuments	the     establishment     of Large-     Scale Social     Restrictions     (PSBB)     Yogyakarta     Special     Region     Government     (DIY)     carry out     emergency     response but     PSBB has     not yet been     established

Source: Analysis

Indonesia, the Government of Indonesia through the Task Force for the Acceleration of Handling COVID-19 made four strategies that will be consistently carried out to strengthen physical distancing policies as a basic strategy to overcome the COVID-19 Corona Virus pandemic.

One of the government's efforts to overcome this outbreak is the establishment of Large-Scale Social Restrictions (PSBB) to prevent the spread of the Covid-19 virus which has been carried out in several areas. The application of PSBB is regulated in Government Regulation No. 21 of 2020. The regulation states that the application of PSBB must first obtain permission from the Minister of Health. The Regional Government (Pemda) of DIY itself has decided that it will not implement Large-

Scale Social Restrictions (PSBB). This is because the number of CoViD-19 cases in DIY is still stable and does not show a significant increase. The DIY Regional Government has issued an Emergency Response (Humas, 2020). The DIY Regional Government took action in dealing with crowds at several points so that the transmission of Covid 19 did not spread even though DIY was not stipulated by PSBB.

Figure 6 Malioboro before and after being affected by the pandemic



Since the Yogyakarta Special Region Government (DIY) announced the first positive case of COVID-19 on March 15, 2020, the tourism industry has been one of the most affected. One of them is the Malioboro cultural heritage area that is deserted, no one comes for a vacation. Store visitors also declined until finally they had no choice and had to close.

## Conclusion

Based on the results of the discussion above and the results of the systematic review of data analysis, the following conclusions are obtained: Urban Resilience is the capacity of individuals, communities, institutions, businesses, and systems within cities to survive, adapt, and grow no matter what kind of chronic stresses and acute shocks they experience. There are also urban resilience strategies based on the results of a systematic review including:

- 100 Resilient Cities:
- The United Nations Office for Disaster Risk Reduction (UNISDR);
- HABITAT III;
- Urban Disaster Resilience Index (UDRI)
- Pressure and Release models.

The results of a systematic review of Urban Resilience also show previous research on Urban Resilience in overcoming climate change, natural disasters, such as earthquakes and floods, socio-economic disparities and accessibility.

Urban Heritage requires a holistic approach in managing historic urban landscapes such as; integrates the objectives of preserving urban cultural heritage and the goals of social and economic development, and sees urban cultural heritage as social, cultural and economic capital for urban development. The results of a systematic review of Urban Heritage show that previous research has discussed a lot: management and preservation, the role of the community, regulations for determining cultural heritage, protecting cultural heritage based on government regulations, development.

There is a Global Strategy for Responding to Covid-19 according to the World Health Organization, with the aim that all countries control the pandemic by slowing down transmission and reducing the number of deaths associated with COVID-19.

The City's Response to the Pandemic, the Chinese government carried out lockdown measures. The streets of Wuhan. China. are deserted after the government imposed a strict lockdown. India imposed a lockdown and banned people from leaving their homes for three weeks. All non-essential businesses have been closed and almost all public gatherings banned. The Indian government is also taking great steps to reduce the impact of the widespread infection in India. all monuments under the Archaeological Survey of India (ASI) were closed including the Taj Mahal, Qutub Minar and Red Fort as well as several UNESCO world heritage sites such as Ajanta Caves and Hampi.

The Indonesian government through the Task Force for the Acceleration of Handling COVID-19 has made four strategies that will be consistently carried out to strengthen the physical distancing policy as a basic strategy to overcome the COVID-19 Corona Virus pandemic. One of the government's efforts by establishing Large-Scale Social Restrictions (PSBB) to prevent the spread of the Covid-19 virus has been carried out in several areas. The Regional Government (Pemda) of DIY

itself has decided that it will not implement Large-Scale Social Restrictions (PSBB). This is because the number of CoViD-19 cases in DIY is still stable and does not show a significant increase. One of the impacts of this pandemic is that the tourism industry is one of the most affected. One of them is the Malioboro cultural heritage area that is deserted, no one comes for a vacation. Store visitors also declined until finally they had no choice and had to close and also the closure of several cultural sites.

Urban Heritage Resilience is still a little research that examines urban resilience in cultural heritage areas and from some of these studies previous research used the Urban Resilience approach in assessing urban resilience in Urban Heritage, so further research is needed. In dealing with urban heritage resilience, several approaches were found that would be very suitable because the approach that had focused on each indicator used and then in dealing with a pandemic would pay attention to the World Resources Institute (WRI) strategy for how cities work to combat the spread of disease. Apart from that, this pandemic has also resulted in a positive effect, namely a decrease in air pollution levels in almost all parts of the world which experienced a very significant reduction in pollution levels..

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