Abstract

Urban development and spatial planning, including policies in the tourism sector, have resulted in the transformation of land use and site shape in the old district of Makassar. This study aims to identify the land use changes of urban tourism amenities and analyze their implication on the site shape change. A spatial analysis of the growth of tourism amenities was conducted to understand the land use change at the urban block level. The results showed an increase in the plot area of tourism amenities such as accommodation, commercial, culinary, and tourism service facilities. An increase in plot area was also experienced by non-tourism facilities such as private offices and public services, while residential use declined.

The patterns of site shape change have been presented by using the typological analysis method. Four patterns of site shape change in the urban blocks level were identified, namely parcel consolidation, parcel splitting, coastal expansion, and demolition. The patterns occurred not only to expand the existing land but also to generate alternative access and form more extensive frontage to accommodate more visitors. In response to the site shape change, the implication to the urban space in the old district should be considered to control urban development. With this study, the pattern of site shape change in the old district will have been stated and will have contributed to explaining the phenomena that can occur in the other old cities as a process of their urban form.

Keywords: Land use change, site shape, tourism amenities, urban block, Makassar.

1. Introduction

1.1 Research Problem and Purpose

Cities are continuously changing their land cover as old buildings are replaced with new structures. McGee studied some cities in Southeast Asia and revealed that the model of land use in large cities tends to apply mixed land use \(^1\). The land use in the cities experiences colonial characteristics. There is an old colonial port zone surrounded by a commercial business district, namely the Western commercial zone and Alien Commercial Zone, dominated by Chinese merchants. The new industrial area is located on the outskirts of the city. The urban structure of Makassar has similarities with the McGee model due to it is situated on the seafront and has influenced by colonial footprint.

The development of infrastructure and urban facilities is carried out in several different districts in Makassar. Government policies offer opportunities for the growth of the urban tourism sector and affect the rapid development of the old town area. In addition, the area has one of the most scenic areas in the city, near to Losari beach and Fort Rotterdam and serves as an urban icon asset and tourism spot. This area has a relatively fast development, with commercial and service buildings, especially those that support urban tourism. Some historical buildings have survived over the years and continue to preserve. However, some buildings have been converted into the
new structures, and others were abandoned or demolished years ago. The district is also experiencing land use changes due to the rapid development and spatial planning of reclamation in the coastal area.

In line with the development of the city, not only business-oriented buildings are going up, but also tourism amenities, with the total number of domestic and international tourist arrivals reaching 5.4% in 2018 compared to 2017 (Culture and Tourism Office of South Sulawesi). However, several blocks in this area are planned as mixed land use, which allows settlements to be located here. Thus, land use changes that occur must consider the synergy of various land needs in the neighborhood so that people can live and work comfortably. Unfortunately, urban spatial control as part of spatial planning in several cities in Indonesia, including Makassar, is still weak\(^2\), so that growth is complicated in urban problems.

This research aims to identify the pattern of site shape change and its implication on site shape of urban tourism amenities in the old district of Makassar. The objectives of this study are: 1) recognize the land use change; 2) classify the pattern of site shape change, 3) identify the implication of the site shape change. To analyze land use change, it is essential to evaluate the pattern of land use change in the past, present to evaluate future policy in terms of certain criteria such as environmental deterioration or improvement, economic decline or growth, social impoverishment, or against the criterion of sustainability\(^3\). The pattern of urban land use can be evaluated in different scales: regional, city, neighborhood, block and street. In this paper, land use change was analyzed to recognize transformation and implication of site shape on the block scale. This study will have contributed to explaining the phenomena that can occur in other old cities as a process of their urban form.

### 1.2 Related Works

Studies of land use change have become increasingly important for efforts to deal with uncontrolled development and deteriorating environmental quality. Therefore, land use change research is a fundamental issue in land science and the global change research field and has relevance to sustainable development\(^4\). Based on the sustainability, some studies are focusing on the process of the transformation and consequence of urban land use change to assess the policies\(^5,6,7\), economic development\(^8,9,10\), climate change\(^11,12\), urban ecology\(^13\), and behavior\(^14,15,16\).

Urban form can be analyzed in different scales: regional, urban, neighborhood, block, and street. Urban block or city block as a part of urban form is a fundamental element of the physical structure or urban areas\(^17\). The performance characteristics of various block sizes, urban block shapes, circulation related to urban layout, land use, building forms, and other aspect have been discussed by researchers and scholars in certain cities in Europe and America. Learning from the transformation of urban blocks from some European cities\(^18\) including Cerda’s Plan in Barcelona\(^19,20,21\), Berlin\(^22,23\), Sweden cities\(^24\) and American cities\(^17,25,26\) the researchers will be able to recognize the culture, economy, history and political role of the urban block in the urban tissue broadly. Inversely, only a few studies have explored the influence and characteristics of urban block change in the cities in Asia and Africa. However, Njagi (2015)\(^27\) has been investigated how the evolution of the urban block has influenced the design of urban spaces in Nairobi. Moreover, he agrees with Salas (2014)\(^28\) that urban block as a tool for rethinking urban fabric. This statement reinforces Siksnas’s research funding about the effect of block size and form in North American and Australian City Centers. He points out that smaller squares block sizes
have better performance than larger blocks. They produce a finer-mesh circulation pattern that affordable for pedestrians, more plot facing street frontage, fewer changes in block shape, and continuous urban fabric.

Typology of the urban block is accomplished by analyzing block size, shape, and layout to understand the influence of historic urban structures and economic competitiveness [25], cultural footprint [29], to encourage optimization of urban construction [30], and to realize a smart city, such as efficient in sun exposure [31]. This paper analyzes land use change and recognize site shape change more detailed in urban block to understand its implication in spatially. These changes are triggered by the rapid development, mainly commercial use and tourism amenities, followed by site shape change, which could have an impact on the disruption of residence and can obscure the existence of cultural heritage buildings in the old district.

2. Research Method
2.1 Research Area
The central business district (CBD) should be identified as the main component in the spatial structure of cities [32]. Generally, the CBD is located on or near to the original site of a city, as well as Makassar (Figure-1). Makassar is one of the coastal cities in eastern Indonesia and the country’s fifth-largest city after Jakarta, Surabaya, Medan, and Bandung. This study focuses on one case study in Makassar old district in the CBD where there are favorite urban tourist spots, namely Losari Beach and Fort Rotterdam. In the current economic plan, tourism is the primary objective behind most urban waterfront redevelopment [33].

2.2 Data Collecting
Data for this study were obtained from primary and secondary sources. Preliminary data was collected through field observations and surveys from the end of 2017 to the beginning of 2018 for recognizing the physical condition of the district and building uses. Data collection of information on land use in 2000 was obtained using secondary references through the research report Development of Tourism Facilities in the old district of Makassar [34]. This research compiles database in building use, mainly tourism amenities in the old district. Building use in the district was carried out using an in-depth interview with landowners and local communities to have sufficient important information on previous land use conditions. Verification was performed by making the comparison between data and the same street segments using Google Street View imagery. Street-level imagery from the past can be seen. Then, data confirmation was also carried out by asking the existing landowner when conducting a survey to record land use in 2018 by asking for previous building use.

Secondary data was inventoried as literature reviews, supporting documents from government agencies valid until 2020 and future planning related to tourism policy and spatial planning in Makassar City. The characteristics of site shape changes were appealed and categorized based on similarities of the transformation pattern based on historical satellite images from 2000 to 2018 provided by Google Earth Pro. Google now uses Landsat 8 to provide imagery in a higher quality [35] and a resolution of about 15 meters per pixel [36]. This makes spatial data analysis possible to be conducted on the block scale with multiple time periods. The satellite image utilized is from longitude 119°24′10″ E to 119°24′49″ E and latitude 5°7′52″S to 5°8′56″S.
2.3 Analysis Method

This study gives an overview of the pattern of land use change in the old city center in Makassar, including explanations of the changes towards increasing the tourism facilities. It covers the influence of colonialization, coastal reclamation, and the growth of tourism amenities. The research reveals the transformation of urban land use at the block level and identify the potential effect on the site shape of urban tourism amenities. The study shows the distribution of land use change, the pattern of site shape change, and discusses the implications of the change. The analysis method is divided into three techniques: spatial, typological and implication analysis.

1. Spatial analysis

The characteristics of land use in the district should be investigated to recognize the land use change. The land uses are classified into eight attributes based on their building uses:

a. Commercial: shophouses, souvenir shop, minimart

b. Accommodation: hotel and homestay
c. Culinary and Service Tourism Amenities: restaurant, café, bar, travel agent, karaoke, beauty salon and spa.
d. Public Service: Government office, education facilities, medical facilities, religious houses, etc.
e. Private office
f. Residential housing
g. Unused land: vacant land, abandoned house
h. Public green open space

Jansen-Verbeke (1986) classifies three interrelated elements of urban tourism, namely city tourist attractions as primary features such as waterfronts, historical patterns, events and festivities; Secondary elements are facilities that have been purposefully built for visitors such as hotels, catering facilities and shops, and additional elements is other infrastructure that can support tourist activities such as tourist information services, public transportation. In this study, land use which is categorized as tourism amenities, includes accommodation, culinary and service tourism amenities and commercials related to the needs of visitors such as souvenir shops, minimarts, boutiques, gold and silver shops. Tourist facilities in the city center can be used by various groups, including tourists, regional visitors, and urban residents. Visitors need leisure services and general human needs while staying in another city, so these facilities often become activity support for visitors and residents who want to enjoy these facilities. Meanwhile, those that serve local residents such as government offices, education, and medical facilities, private offices are classified as non-tourism amenities. The changes in plot areas and the number of buildings or parcels in 2000 and 2018 were compared spatially to know the increasing number of parcels, plot area, and distribution pattern for tourism amenities. The changes in plot areas and the number of buildings or parcels in 2000 and 2018 were compared spatially to know the increasing number of parcels, plot area, and distribution pattern for tourism amenities.

2. Typological Analysis
The pattern of site shape change was identified by classifying the process of transformation in the block scale by comparing the site shapes over different years. In this paper, the site shape changes were evaluated by using satellite image data to analyze their transformation from 2000 to 2018 and categorize the types of site shape change. The data showed four distinct types of site shape change, namely parcel consolidation, parcel splitting, demolition, and coastal expansion. The analysis considers accessibility, time change, parcel size, built area, densities (building coefficient ratio/BCR, floor area ratio/FAR, building height), and building uses.

3. Implication Analysis
Drawing out the implication of land use and site shape change was conducted by evaluation the distribution pattern of land use and parcel size of the transformed site shapes in different pattern types. The implications are identified for consideration issues in the urban space as the effect of land use and site shape changes. The results explained the phenomena of land use change in micro scale. This will contribute to the spatial policy in dealing with changes in the other old cities or urban space that has a mixed land use concept.
3. Dynamic Urban Spatial of Makassar

Makassar City is the most urbanized city in the eastern Indonesia, covering 175,77 km² with a population of 1,508,154 people in 2018 (BPS/Statistics of Makassar, 2019). The annual population growth rate is 1.29% with 8,580 people/km² population density. CBD as a research area is a part of Makassar old district. The following describes the development of Makassar, which explains the growth of the city and the spatial planning that affects its development.

3.1 Historical Spatial Pattern of Makassar

In the colonial period, Makassar was divided into four districts (Figure-2): 1) Fort Rotterdam was the center of government, military, Dutch colonial settlement, symbol of trading and port; 2) Vlaardingen on the northeast side of the fort was settled by Eurasian, Chinese and Christian native; 3) Kampong Malay/Melayu, in the north of Vlaardingen, was inhabited by Malay; and 4) Kampong Baroe/Baru where natives lived, with other Asians and Mardijkers who worked for Dutch. Fort Rotterdam was built in the 17th-century fort built on top of an existing fort of the Gowa Kingdom. It was taken over by the Dutch through the Bongaya Agreement in 1667, and rebuilt with a surrounded wall in 1673. The city center was oriented towards the Rotterdam fortress in this colonial phase, and it became a primary element and growth point of Makassar.

Figure-2 Makassar in the early 20thC to 1960s

Urban structure of Makassar in the colonial era comprises of:
1. Fort Rotterdam as CBD; 2. Vlaardingen; 3. Kampong Malay; 4. Kampong Baru
Urban development has increased since independence in 1945, and Makassar has expanded from 21 km\(^2\) to 175.77 km\(^2\) in 1970 due to the increasing population of Makassar. This study analyzes land use and the site shape changes in the city center, including the Fort Rotterdam area and some of the Baroe villages, which are currently administratively located in Ujung Pandang District. Fort Rotterdam has been extensively restored and used as offices and museum La Galigo since the 1970s. Today, Fort Rotterdam is a cultural and educational center, office, museum, and place for various cultural events such as music, dance events, and a tourist destination.

### 3.2 Spatial Planning and Urban Tourism Policies

Tourism is the leading reason behind most of the rebuilding of the urban waterfronts. Urban tourism planning, spatial regulation, and local government supporting for MICE (meeting, incentives, conference, and exhibitions) at national and international levels deliver attraction for doing business in the city. The term MICE represents a sector of tourism that includes business events and activities.

Besides Fort Rotterdam, Makassar has famous tourist spot placed in the old district, namely Losari Beach, commonly referred to as Anjungan Pantai Losari, recognized as an icon of the city. It is a popular hangout place for both locals and tourists and is definitely a must-visit while in Makassar. Even though Losari beach does not have the real beach sand, it is a public space that offers sea views and panoramic, beautiful, views of the sunset. Before 2000, the sea front was designed by constructing a seawall and pedestrian way along the coast, stretching from the north to the west of the old city. While enjoying the scenery in the afternoon or after exercising, or fishing, visitors can enjoy local food offered by street vendors. In 2004, the government then built a plaza, circa 900 meters long and almost 100 meters out into the sea. The reclamation project for the construction of the promenades and plazas was completed in 2013, then reclamation continued to the south of the Losari Beach as a new large-scale Central Business District, the Central Point of Indonesia. The first phase of the reclamation project covering an area of above 100 Ha is being carried out. Moreover, the development of a new port also has been planned in the north Makassar through the agreement of Indonesian State-owned port operator Pelindo IV and state construction firm PTPP or PT. Pembangunan Perumahan (PT.Pelindo IV, 2015).

Spatial planning and urban tourism policy that deliver spatial urban development including land use change are as follows:

1. Makassar is designated as a National Activity Node (Pusat Kegiatan Nasional/PKN) for export and import, national and international, serving industry and transportation on a national scale (Government Regulation of the Republic of Indonesia Number 26 in 2008 concerning National Spatial Plan/Rencana Tata Ruang Wilayah Nasional). The planning is line with Makassar’s economic structure, which mostly comes from the trade, industry, and construction sectors (Statistics Indonesia). Moreover, its gross domestic regional product/GDRP growth rate is above the national GDRP.
2. Makassar is a core city of the Mamminasata Metropolitan area, which includes the nearby cities of Maros, Sungguminasa in Gowa region, and Takalar (Presidential Regulation Number 55 in 2011 concerning urban spatial plan for Makassar, Maros, Sungguminasa, and Takalar (mamminasata metropolitan area). It is not only a center of the regional government but also a leader in trading, services, urban tourism, and convention.
3. Spatial Planning in the coastal area consists of reclamation for new CBD, new tourism spots, and maritime & harbor facilities. The development of Center Point of Indonesia will increase business activities in urban development in downtown and emphasizes Makassar’s position as a waterfront city. Therefore, it is appropriate to consider the old city for urban tourism development such as marine tourism, heritage tourism, culinary, and shopping (Government Regulation of Makassar Number 4 in 2015 about Urban Spatial Plan or RTRW 2015-2034).

4. Ujungpandang district is very important as a central business district, urban tourism node, and urban settlement area. A pedestrian bridge construction is planned to connect the old CBD and the new CBD. In addition, a curved road will also be built on the north side of this area to provide public access to the seaside (Detailed Spatial Plan for Ujung pandang District/RDTR).

5. Makassar is the main hub of Eastern Indonesia, including for visiting Tana Toraja, a famous tourism destination in South Sulawesi Province. Urban tourist destinations near to the waterfront area include historical and cultural attractions such as Fort Rotterdam, shopping, culinary, religious, the tombs of Tallo kings and Prince Diponegoro, beach resorts, village tourism, leisure activities such as Losari platform, MICE tourism, education and health, marine tourism such as island and underwater tours (Integrated Plan of Urban Tourism Development for Makassar/RIPDA or Rencana Induk Pengembangan Pariwisata Daerah Kota Makassar 2015-2035).

Figure-3 Spatial Planning concerning urban development and urban tourism in Makassar
Spatial Planning in the coastal area: Reclamtion for New CBD, New Tourism Spots, and Maritime & Harbor Facilities
6. Fort Rotterdam is designated as the national cultural heritage site based on the Decree of the Minister of Culture and Tourism No. 59/PW.007/MKP/2010, then updated in the Decree of Minister of Education and Culture no. 25/M/2014. Revitalization of Fort Rotterdam was carried out by renovating, painting the buildings, and design the landscape inside the fort in 2012. It was then continued with the park's design outside the fort by tearing down the buildings on the south side. However, there were still many commercial and houses growing next to the fort. Whereas in the 2010 master plan of the Makassar old district compiled by the Province of South Sulawesi, the Fort Rotterdam area is surrounded by green open spaces.

3.3 Spatial Urban Development in Makassar

As in other developing cities, the urban spatial structure in Makassar has become more complex with population growth and the expansion of the city's administrative boundaries. Consequently, the urban spatial structure has changed from a centralized system during colonialism to polycentric until now (Figure-3). In addition, Makassar, a provincial capital city of South Sulawesi, is known as the gateway of the regions in the eastern and the satellite of Mamminasata Metropolitan. Therefore, Makassar is not only an economic driver for the east part of the Indonesian archipelago but also an economic magnet for the surrounding regions or periphery. Spatially, the urban structure of Makassar has one dominant central business district (CBD) located in the old district, and several subcenters distributed in a few districts. The urban landscape change and economic growth take advantage of opportunities in the MICE (Meeting, Incentive, Conference, and Exhibitions). Therefore, some tourism amenities such as hotels, restaurant, shops, the nightlife, and other service business also hold potential for tourism.

Many historical buildings have been demolished so that there are only a few colonial buildings that still exist near the Fort Rotterdam and several buildings scattered in this old district. Several prestigious colonial buildings are protected, through cultural heritage regulations such as Fort Rotterdam, Major's Official Residence, and Stella Maris Hospital, which stand on the waterfront area. This building provides evidence that Penghibur Street has been an essential corridor connecting the northern area of Fort Rotterdam and the south of Kampung Baroe. Losari beach stretches out along this main road and has been an interesting public place since a long time ago.

Most of the buildings designated as cultural heritage are government offices and public services, only a few used as houses. Unfortunately, many old buildings with colonial architecture utilized as houses, shops, cafes, and private offices are not designated as cultural heritage. Therefore, many colonial-style houses were torn down and replaced with new buildings with higher building coverage. However, there are still a few old shophouses and houses with additions to their original buildings' facades and spaces. By maintaining the original heritage building shape, the shop owner provides tourists with an attraction to buy at the shop. Preservation of cultural heritage buildings is to attract tourists and preserve the past cultural traces for next generations as an effort to implement Agenda 2030 as the sustainable development (SDGs) goals.

Changes in the old CBD's spatial pattern occurred with increasingly dense around Fort Rotterdam, along the coast, and the old district (Figure-4). Although the road pattern is maintained, there is a reduction in the parcel size, the number of parcels, and the private open space. These changes tend to be oriented towards economic value because there are no guidelines for the building and site on the block scale while the spatial regulations provide urban development
opportunities. So that what was previously single houses built on the frontage blocks, nowadays the houses transform to the row houses or row shophouses placed in the frontage blocks and inner blocks.

![Figure-4 Land Cover Change in Makassar CBD](image)

4. Land Use Change in Makassar Old District
4.1 The Pattern of Land Use Change

According to the chairman of the Indonesian Exhibition Company Association (ASPERAPI), currently, there are 90% of MICE activities in Indonesia on a national scale and only 10% on an international level (Petriella, 2019)). International class MICE events are often held in Jakarta and Bali, but several other cities have the potential for MICE development such as Yogyakarta, Bandung, Surabaya, Makassar, Medan, Manado, Solo, Semarang, Lombok, Batam, Balikpapan, Palembang, and Padang. The position of Makassar City as an economic gateway on the Eastern side of Indonesia and the MICE program can raise the number of tourists in Makassar City. The conditions provide opportunities for local communities, the private sector, and investors to develop a tourism business on the beaches as an added attraction of the city of Makassar.

Figure-5 shows an increase in almost all commercial and service tourism amenities in the district, such as souvenir shops, hotels, homestays, restaurants, cafes, bars and discotheques, spa and salons, travel agents, and retail shops. Not only tourism facilities, but private offices, public facilities such as medical facilities, schools, and banks also occupy space in this district.

Land use has changed rapidly over the past two decades. The most significant change is land for private offices 146.62%. There are even buildings not yet used because they have just been built or renovated (Table-1). The improvement of the plot area of accommodation facilities reached 107.23% from 2000 to 2018. In addition, culinary facilities and other service tourist amenities achieved an increase in plot area of 55.33%. Moreover, commercial uses also experienced an area expansion of 29.05%, whereas unproductive land such as vacant land or abandoned houses rose to 13.49%.

In 2000, tourism amenities were built close to the west coast of the city center, less than 200 meters from the coastline and linearly patterned on the main road Penghibur Street and Somba Opu Street (Figure-5a). There was more development further east and south of the district with around 500 meters distance from the coast in 2018 (Figure-5b). Tourism amenities such as accommodation, commercial, culinary, and service tourism amenities increased to 61.5% of the plot area, or 123 additional buildings. Meanwhile, land for non-tourism amenities, including private office and public services, increased by almost 24% plot area, or 98 additional buildings.
### Table-1 Land use change and Increasing Number of Parcels in the Old District of Makassar

| Land Use Type                        | Num. of parcel | Increasing num of parcel (%) | Plot Area (m²) | Increasing plot area (%) |
|--------------------------------------|----------------|-------------------------------|----------------|--------------------------|
|                                      | 2000           | 2018                          | 2000           | 2018                     |                          |
| a. Commercial                        | 252            | 286                           | 13.49          | 43,690                   | 56,380                   | 29.05                     |
| b. Accommodation                     | 17             | 35                            | 105.88         | 38,430                   | 79,640                   | 107.23                    |
| c. Culinary and service TA           | 85             | 156                           | 83.53          | 54,790                   | 85,104                   | 55.33                     |
| Subtotal of tourism amenities growth | 34.75          |                               |                |                          |                          |                           |
| d. Public Service                    | 38             | 66                            | 73.68          | 130,360                  | 144,970                  | 11.21                     |
| e. Private Office                    | 29             | 99                            | 241.38         | 13,470                   | 33,220                   | 146.62                    |
| Subtotal of non-tourism amenities growth | 146.27       |                               |                |                          |                          |                           |
| f. Residential                        | 1,401          | 1,140                         | -18.63         | 321,500                  | 205,494                  | -36.08                    |
| g. unused land: vacant land/ abandoned house | 27           | 89                            | 229.63         | 33,300                   | 37,792                   | 13.49                     |
| h. Public green open space           | 4              | 4                             | 0              | 14,690                   | 19,960                   | 35.87                     |
| Total                                | 1,822          | 1,782                         | 602,240        | 604,808                  |                           |

**Figure-5 Land use in 2000(a) and 2018(b)**

Somba Opu Street stretches from north to south along around one kilometer distance. The Somba Opu Street corridor has been filled with shophouses since 1970. Then, it has been known as the center of souvenir and gold shops in Makassar before 2000. Currently, there are 48% of shop houses selling souvenirs and gold jewelry in this corridor. The street is a one-way traffic where souvenir shops are rowing on the south side of Fort Rotterdam, offering Makassar’s distinctive crafts. This shopping street offers gold accessories, pearls, hand-woven silk sarongs, traditional attire, t-shirts, key chains, wall ornaments, and traditional dry foods. In addition to the souvenir and gold jewelry shops, there are also shops offering sport equipment and watch. Most
of the vendors are Chinese descends, and the rests are native 'Buginese-Makassarese', Arabian, and Indian descends.

4.2 The Implication of Land Use Change

At present, urban development has transformed land use, urban landscape, and building layout. Tourism amenities and non-tourism amenities increased in the past two decades. Only residential use experienced a reduction, to 36.08% of the plot area. The old district's urban landscape has changed over the years, marked by the high frequency of physical changes in the landform construction, renovating, or just tearing down the buildings. The original buildings as a single house were converted into row houses or shophouses to produce more parcels and get multiple profits from selling land. The buildings have no side setback. Some of them do not even have a rear setback. Therefore, the parcels have only a slight setback left in the frontage. Nowadays, almost all commercial corridor in Makassar is filled with shophouses. Those changes are noticeable from the increase in commercial and service buildings that have replaced housing to more productive in economic value.

The Somba Opu corridor plays a vital role in the development of urban tourism due to its location as a line hub for tourist spots, culinary, and accommodation facilities. Hotels and homestay currently occupy spaces on the east and south sides of the areas, which were formerly only developed close to the beach. The distribution of these facilities was also followed by new shop houses, stores and minimarts. Culinary facilities tend to inhabit spaces that are nearby tourist attractions, hotels, and public services. The distribution pattern of these tourist amenities shows the relationship between land uses and tourist spots. However, nowadays, these facilities are increasingly scattered in almost all blocks.

Generally, commercial uses, including tourism amenities and public services, increase in the frontage block due to the accessibility to the urban tourism spots and its strategic location near the city center. However, a commercial building replaces many houses. On the other hand, some houses in the inner block have been acquired and changed into tourism facilities. Fortunately, many homes still survive in the inner block, as a ‘kampung kota’ or city village or urban kampong, slum in urban area (Figure-6). The existence of kampung kota that characterize several urban spaces in Indonesia provides opportunities for local communities to access urban facilities, live, and work in synergy within the city. The kampong Kota improvement is needed to realize the ‘Lorong Garden Program’ or alley design declared by Makassar Government. The program is in line with SDGs (Goal-11) to make cities and human settlements inclusive, safe, resilient, and sustainable.

Some of the driving forces for land use change in this area are the development of infrastructures and urban facilities and policies that support economic development in cities. The local government built a plaza or ‘Anjungan Pantai Losari’ as a viewing spot and public space along the reclamation beach, which is less than 100 meters to the sea in 2004. In addition, the provincial government initiated a preservation project for Fort Rotterdam, renovating the buildings inside the fort and relocating the Industrial and Trade Office building. The government office was demolished and then laid out there in 2010 for new green open space.

While many travels for MICE, others travel in leisure time to seek entertainment, learn about other cultures, and develop their specific interests. Mixed land use in this area allows visitors to choose to stay at a hotel or homestay in this area. Apart from enjoying the beach and beautiful
sunsets' panoramic views, feel the local cuisine, tourists can also visit the Fort Rotterdam cultural heritage site and some colonial-style buildings that still exist and hunt for souvenirs. People are currently finding that taking photos themselves is by far the best thing they can take away from the place they visited for memories. People in business and MICE participants can also carry out their activities because many hotels can support their main activities. Numerous regional and international exhibitions are even held at the Anjungan Pantai Losari. For local people who live in this area, they can also take advantage of the economic opportunities, such as opening businesses that support urban tourism, working as tourism amenities employees and street vendors in permitted locations, providing traditional food, and so on.
Today, several urban development projects on the west side are being planned with coastal reclamation, namely: a new integrated business center area, development of marine infrastructure including a new port, and a tourism area. The government regulations regarding spatial planning provides business opportunities for investment or the private sector for trading, providing services, and buildings for conducting exhibitions, meetings, and conferences in the city center. However, the old city district is still interesting for tourists to visit because of its close proximity to the cultural heritage.

5. Site Shape Change
5.1 The Pattern of Site Shape Change
The land use changes that occur in Makassar old city have resulted in transformations of site shapes in the frontage blocks and also the inner blocks during two decades. The transformations show patterns that can be categorized into four types, namely: parcel consolidation, parcel splitting, demolition, and coastal expansion, as explained as follow. The Table-2 provides concise definitions of the change pattern types in this case.

| Land Type  | Site shape change Pattern | Building Use Conversion | Phenomenon |
|------------|---------------------------|-------------------------|------------|
| 1. Existing Land | a. Parcel Consolidation | Combining two or more lots together to make a larger lot under one ownership then construct a new building a different usage from the previous building | Converted |
|  | b. Parcel Splitting | Dividing a parcel into smaller lots then construct new buildings with different uses than the previous building | Converted |
|  | c. Demolition | - | - |
| 2. New Land | d. Coastal Expansion | Coastal expansion is a development of the seafront area by creating new land (reclamation). | Converted |

These four patterns show three types of phenomena based on the nature of the site shape change. Phenomenon A, converted and unconverted building use parcel, indicates the pattern of site shape changes both with or without followed by building use change. This phenomenon occurs in the pattern of parcel consolidation and splitting. Phenomenon B, unbuilt land, is a pattern that occurs through the land demolition process in gradual or at the same time but several land ownerships. Phenomenon C, converted land use in a new land, reveals site shape change character in shoreland.

a. Parcel Consolidation (Figure-7)
The urban land consolidation in the old district is inventories 18 cases during the period 2000 to 2018. There are 12 parcel consolidation cases or 67% of the parcel consolidation cases that experienced consolidation from 2010 to 2018 (Table-3). This urban land consolidation caused a reduction in the number of lots from 95 to 18 lots or a 5-fold reduction. However, the height of the buildings increased from one-storey to three-storeys, and a change from to three-storeys up to 19 floors. It indicates that although the number of buildings is decreasing, the floor area is getting higher.
The parcel consolidation occurred on collector and local roads, but mostly or 67% of cases are accessed by roads less than 6.5 meters wide. Based on the change direction, the parcel consolidation indicates lots were combined at the back or side area of the former lots. In this city center, there are 67% or 12 cases of the parcel consolidation cases had accessible land expansion, while the remaining 33% or 6 cases were consolidation with an inner block parcel. Parcel consolidation not only increases the space to support the main land function but also gives increased access for alternative entrances or exits. This phenomenon illustrates that some parcel consolidation cases have good implications for improving the quality of urban space.

Table-3 The Character of Transformed Site Shape in the old district of Makassar

| Component | Site shape change | Parcel Consolidation | Parcel Splitting | Demolition | Coastal Expansion |
|-----------|-------------------|----------------------|------------------|------------|-------------------|
| 1 Road Type | a. Collector | 10 55.6 | 28 32.6 | 1 14.3 | 4 36.4 |
|           | b. Local        | 8 44.4 | 58 67.4 | 3 42.6 | 0 0 |
|           | c. Alley/lorong | 0 0 | 0 0 | 3 42.6 | 7 63.6 |
| 2 Road of Width (m) | a. ≤ 6.5 | 12 66.7 | 48 55.8 | 4 57.1 | 7 63.6 |
|           | b. 6.6-12 | 3 16.7 | 15 17.4 | 3 42.6 | 2 18.2 |
|           | c. > 12 | 3 16.7 | 23 26.7 | 0 0 | 2 18.2 |
| 3 Availability of inner block | a. Inner block | 14 77.8 | 36 41.9 | 3 42.6 | 0 0 |
|           | b. No inner block | 4 22.2 | 50 58.1 | 4 57.1 | 11 100 |
| 4 Time change | a. 2000 - 2009 | 6 33.3 | 77 89.5 | 1 142.9 | 3 27.3 |
|           | b. 2010 - 2018 | 12 66.7 | 9 10.5 | 6 85.7 | 8 72.7 |
| Total Number of parcels | 18 | 86 | 7 | 8 |

Note. The number of sites/parcels represents all sites that changed in their size at the case study location from 2000 to 2018.

Merging two or more parcels not only expands land to improve building facilities but also makes changes in land use, such as from residential to business-oriented lots. This pattern is mostly accommodation-use (55.6% cases) in which 7 cases experienced changes in their building uses from houses to hotels. whereas only one case has changed its land use from house to
This phenomenon shows that parcel consolidation pattern is mostly experienced by hotel that require additional service facilities and parking lots for their guests (Table-5).

**Table-4 The Transformation of Site Shape in the old district of Makassar**

| Component | Site shape change | P. Consolidation (%) | P. Splitting (%) | Demolition (%) | Coastal Expansion (%) |
|-----------|-------------------|----------------------|-----------------|---------------|-----------------------|
|           | previous | current | previous | current | previous | current | previous | current | previous | current |
| 1 Parcels (n) Total numbers | 95 | 18 | 22 | 86 | 24 | 7 | 4 | 8 |
| 2 Parcels size (m$^2$) | a. Small ≤ 200 | 27.8 | 11.1 | 0 | 73.26 | 57.14 | 14.29 | 0 | 50<sup>1)</sup> | 0 |
|           | b. Moderate 201-600 | 22.2 | 22.2 | 59.09 | 26.74 | 14.29 | 42.86 | 0 | 0 |
|           | c. Large > 600 | 50 | 66.7 | 40.91 | 0 | 14.29 | 42.86 | 50 | 100 |
| 3 Built area (m$^2$) | a. Small ≤ 70 | 22.2 | 0 | 0 | 8.14 | 0 | - | 50<sup>1)</sup> | 0 |
|           | b. Moderate 71-200 | 27.7 | 11.1 | 63.64 | 91.86 | 42.86 | - | 25 | 0 |
|           | c. Large > 200 | 50 | 88.9 | 36.36 | 0 | 57.14 | - | 25 | 100 |
| 4 Building Height (Num.of floors) | a. 1-2 storeys | 72.2 | 5.6 | 100 | 0 | 87.5 | - | 100 | 87.5 |
|           | b. 3-5 storeys | 16.7 | 33.3 | 0 | 100 | 12.5 | - | 0 | 0 |
|           | c. > 5 storeys | 11.1 | 61.1 | 0 | 0 | 0 | - | 0 | 12.5 |
| 5 BCR (%) | a. ≤ 30% | 5.6 | 5.3 | 27.27 | 0 | 14.29 | - | 87.5<sup>2)</sup> | 0 |
|           | b. 31-60 | 50 | 31.6 | 68.18 | 32.56 | 14.29 | - | 0 | 50 |
|           | c. 61-100 | 44.4 | 63.2 | 4.55 | 67.44 | 71.43 | - | 12.5 | 50 |
| 6 FAR | a. < 1 | 55.5 | 0 | 100 | 0 | 71.43 | - | 8<sup>2)</sup> | 25 |
|           | b. 1 – 3 | 38.9 | 22.2 | 0 | 100 | 28.57 | - | 0 | 62.5 |
|           | c. > 3 | 5.6 | 77.7 | 0 | 0 | 0 | - | 0 | 12.5 |

**Note**

1) four cases are new land which was previously only part of the sea.

2) including the value zero for pre-reclamation/unbuilt condition from four cases.

The number of sites/parcels represents all sites that changed in their size at the case study location from 2000 to 2018. "Previous" represents site conditions before changes, while "current" represents site conditions in 2018.

b. Parcel Splitting (Figure-7)

Parcel splitting increases in the number of lots by four times rising from 22 parcels in 2000 to 86 parcels in 2018. 89.5% parcels of the 86 that experienced splitting or subdivision did so from 2000 to 2009, and the remaining 10.5% transformed after 2014 (Table-3). These parcel splitting cases are distributed in all types of road and more than a half cases located on the roads that are less than six meters wide. The parcel splitting occurred on housing with a moderate parcel size or more than 200 m$^2$, and large parcel size or more than 600 m$^2$ (Table-3). The large parcel size in this old city center is a legacy of the colonial era. The old house would be demolished, the parcel divided, then services tourism amenities, public services, or even remained houses built.

It converted the parcel from the previous size average of above 800 m$^2$ to about 170 m$^2$. Moreover, before experiencing site shape changes, there were 95% of the former buildings which were single and semi-detached landed houses (one storey), becoming row buildings, with three and four stories. Not only changes the parcel size, but this pattern transforms the building use. The building which previously functioned as a house turned into a private office, restaurant, café, shop house, minimart, beauty salon, karaoke, bank, education course, drugstore, medical clinic. While only 19.8% (17 of 86 lots) were unchanged their uses as houses (Table-5).

Lot splitting gives an increase in the number of parcels, building density, building height, and the diverse types of building use, mainly commercial uses, that can improve the local and urban economy. However, the capacity of the environment needs to be considered, such as the
availability of infrastructure because most of the parcel splitting occurs where the streets are in
narrow, less than six-meter wide.

| Land Use                  | Pattern of SSC | Commercial   | Accommodation | Culinary & Service | Public Service | Private Office | Residential | Total Number |
|--------------------------|----------------|--------------|---------------|-------------------|----------------|---------------|-------------|--------------|
| 1. Parcel Consolidation  | 7 (38.9%)      | 10 (55.6%)   | 1 (5.6%)      | 0                 | 0              | 0             | 0           | 18           |
| 2. Parcel Splitting      | 21 (24.4%)     | 0            | 18 (20.9%)    | 10 (11.6%)        | 20 (23.3%)     | 17 (19.8%)    | 86          |
| 3. Coastal Expansion     | 1 (12.5%)      | 1 (12.5%)    | 6 (75%)       | 0                 | 0              | 0             | 8           |

SSC : Site Shape Change

c. Demolition

Some researchers distinguish the terms deconstruction, demolition, and destruction based on their method or process. However, in this paper, demolition is intended as an activity of removal from existing buildings into vacant land. Old houses are torn down and replaced by new ones. There can be more reasons for selling than demolition, such as the cost of, home downsizing, aging parents, or deceased parents. When children are raised and live separately, many rooms are left empty, whereas large houses require quite expensive maintenance. Also, old houses need repairs to stay comfortable. Downsizing means selling a present house to buy a smaller one. Some homeowners agree with selling or leaving, then move to the smaller house. Even though lifestyle may change, and a location farther from the city center or home appearance is less prestigious, a smaller home can reduce the maintenance expense and time spent on the household.

Although most parents prefer to stay where they are, many of those who moved did so to be closer to family rather than to move to a retirement community. Aging parents may feel more comfortable with the idea of selling their home and moving to live with their grandchildren. When parents passed away, the property must be sold because the children have been living independently with their family in another place or city.

From 2000 to 2018, 285 buildings were demolished in 43 blocks that have been changed to new construction until today, while 15 lots have not yet been built for 2 to 12 years. Among the vacant lots, only seven parcels experienced changes in plot area or site shape. The vacant land located on the frontage of the block has large and moderate lots between 270 to 5,740 m2, while vacant land located in the inner block is in small and medium parcel sizes of 108 to 384 m2. Demolition that occurs in the region has two types of change: gradual and tear down. Some cases, houses were torn down after being merged in once time, but other cases were gradually demolished. The two kinds of demolition have occurred both in frontage and inner block for more than six years unused. This reveals that the demolition cases occurred not only to build a new building on the existing land, but also to prepare land or new investments for larger building construction.

d. Coastal Expansion (Figure-8)

Waterfront area, mainly with access to the main road, is widely known as strategic land for business and investment. Natural scenery, being a city image and historical site, and closeness to the new integrated business district (Center Point of Indonesia) make it evident that the waterfront area is a valuable resource for the city. Moreover, compared to the other blocks,
the highest land price in this district is placed at the block bordering the coastal area (A1, A10, A11), especially if the site passes by main road Ujung Pandang Street and Penghibur Street.

There were 11 building construction projects from 2000 to 2018 that border the coastline. The 73% of new building was constructed between 2010 and 2018, while only 27% was built before 2010 (Table-3). The projects were launched by reclamation (six cases) and demolition (two cases). The most striking new development is a high-rise hotel, followed by food courts, houses, and offices. In general, 82% of buildings on the waterfront are road-oriented, while 18% of the new buildings are sea-oriented. There is an impression however, that the seaside is a private area for the landowner, and it should be shared with the public in some part/area on the waterfront (Hoyle, 1995). The high rise building and some new structures together with the modern architectural concepts in front of Fort Rotterdam seems to ignore the existence of heritage sites. The presence of buildings on the beach can obscure the significance of Fort Rotterdam as a national Cultural Heritage Property.

5.2 The implication of Site Shape Change

The site shape changes have implications to the urban space, then dealt with as phenomena in Makassar old district as a process of urban development. The pattern of site shape change affects the land use and site shape. Parcel consolidation produces 66.67% of large parcels which are more than 600 square meters, mainly accommodation uses (Table-6). While parcel splitting produces 73.26% of the small plot size, which is less than 200 square meters. Small size sites make the land easier to sell and more flexible in its building use such as, shophouses, cafe and restaurants, public services, offices, and houses. Some houses turn into shophouses and private office because the row buildings design the façade by applying a wide front door to allow window shopping. The phenomenon of coastal expansion occurs in northern shoreland that is not given physical boundaries to the sea (Figure-9). Most coastal expansion patterns (75%) create large size site and utilized as cafe and restaurants (Table-6). The seafront is developed as an attraction for visitors to be able to enjoy the evening panorama and seafood menus that are typical of the restaurant.
Table-6 Transformed Site Shape in Different Uses and Sizes

| Component                  | Parcel Consolidation | Parcel Splitting | Coastal Expansion |
|----------------------------|----------------------|------------------|-------------------|
|                            | Width    | Depth   | L-Shape | Complex | Sub Total | Row | Square Corner | Cluster | Sub Total | Redclamation | Floating | Corridor | Sub Total |
| a. Small ≤ 200 m² (%)      | 5.56     | 5.56    | 0.00    | 0.00    | 11.11     |     | 54.65        | 16.60   | 0.00      | 73.26        | 0.00      | 0.00      | 0.00      |
| b. Moderate 201-600 m² (%) | 0.00     | 5.56    | 16.67   | 0.00    | 22.22     |     | 11.63        | 0.00    | 15.12     | 26.74        | 12.50     | 12.50     | 25.00     |
| c. Large > 600 m² (%)      | 22.22    | 27.78   | 0.00    | 16.67   | 66.67     |     | 0.00         | 0.00    | 0.00      | 0.00         | 25.00     | 12.50     | 37.50     |
| Sub Total                  | 27.78    | 38.89   | 16.67   | 16.67   | 100.00    |     | 66.28        | 18.60   | 15.12     | 100.00       | 37.50     | 25.00     | 37.50     |
| Land Use (%)               |          |         |         |         |           |     |              |         |           |              |          |          |           |
| Commercial                 | 11.11    | 11.11   | 11.11   | 0.00    | 33.33     |     | 19.77        | 4.65    | 0.00      | 24.42        | 12.50     | 0.00      | 12.50     |
| Accommodation              | 16.67    | 27.78   | 0.00    | 16.67   | 61.11     |     | 12.79        | 4.65    | 4.65      | 22.09        | 12.50     | 25.00     | 75.00     |
| Culinary & Service TA      | 0.00     | 0.00    | 5.56    | 0.00    | 5.56      |     | 6.98         | 3.49    | 1.16      | 11.63        | 0.00      | 0.00      | 0.00      |
| Public Service             | 0.00     | 0.00    | 0.00    | 0.00    | 0.00      |     | 10.47        | 3.49    | 9.30      | 23.26        | 0.00      | 0.00      | 0.00      |
| Private office             | 0.00     | 0.00    | 0.00    | 0.00    | 0.00      |     | 16.28        | 2.33    | 9.30      | 37.50        | 0.00      | 0.00      | 0.00      |
| Residential                | 0.00     | 0.00    | 0.00    | 0.00    | 0.00      |     | 16.28        | 2.33    | 18.60     | 37.50        | 0.00      | 0.00      | 0.00      |
| Sub Total                  | 27.78    | 38.89   | 16.67   | 16.67   | 100.00    |     | 66.28        | 18.60   | 15.12     | 100.00       | 37.50     | 25.00     | 37.50     |

The parcel consolidation pattern occurs by three methods based on the merging direction, namely: 1) width, widening the parcel width; 2) depth, expanding into the parcel depth; 3) L shape, expansion by forming a L-shaped lot with two access road; and 4) complex, consolidation to the both width and depth direction (Figure-10). The width pattern makes the parcel wider, allowing more extensive public commercial floor areas or parking lots. The depth pattern modifies the site shape to be more elongated into the parcel by combining the frontage parcel with the inner block or the back-land parcel (back-to-back lots). This pattern can transform rectangle site shape...
to lengthener or narrow lot or flag lot. The new site shapes offer more semipublic or service zone. However, some of them may have the difficulties of emergency vehicles such as fire truck in accessing to the depth zone. While through lot has opportunity to add more commercial floor area in different access but it is limited by rear setback.

Figure-10 Pattern of Site Shape Change
The number of cases in site shape change: Parcel Consolidation 18; Parcel Splitting 20; Coastal Expansion 8 cases

L shaped parcels have the advantage in additional access so that the two-way entrance/exit can be applied. However, this pattern can isolate a corner lot if the new building does not consider ventilation and daylight for the neighbor. The complex pattern occurs by combining several frontage parcels and inner block lots to form an irregular site shape. This pattern offers a more extensive public commercial floor area, private zone and enlarges the parking lot in front of the building or the backside. However, emergency vehicles may have difficulty accessing the inner zone because the new site forms a fairly large parcel and appears to be able to block access to the inner block.

Table 6 shows that a higher number of consolidation cases were experienced by hotels (61.11% of 18 cases). This indicates that there is an emerging trend to creating larger development parcels, mainly to accommodate visitors (Table 6). This phenomenon occurs in some pattern (width, depth and complex) because it has several benefits for hotels such as: providing more rooms, convention room or other service areas, reduction in driveway crossings, enabling separated entrances and exits, greater ability to setback from boundaries to provide parking lots, landscapes or facade design.

The parcel splitting at the case study location appears three types of pattern: row, corner, and cluster. Row pattern is the result of the most commonly applied, that is, 17 of 20 cases (Figure-10) resulting 66.28% of 86 split parcels (Table-6). This pattern divides a large parcel into several smaller parcels with the equal length and width, except for the corner plot which generally have
extra parcel width. The parcels were built row low-rise buildings (two to four floors) collectively as several "ruko", stands for “rumah toko” or shophouses, then sold separately. The Ruko shares one or both sidewalls and a roofline with the structure next door. Square corner pattern is a modification of the row pattern. A corner site is divided into smaller lots by vertical and horizontal plat utilizing both access roads as frontage fields for new parcels. Therefore, this pattern results more parcels compare to row pattern. The cluster pattern is applied to the large site but only has one access to the main road. A parcel is divided into smaller lots by vertical and horizontal plat. Clustering of business-oriented buildings closely together generated a community of commercial activity for ease of access. The pattern provides inner access and parking lots for accommodating vehicle circulation approximately 30 percent of the total plot area. The collective parking lots are designed to be on site so that visitors’ vehicles do not park on-street. In addition, there is only one entrance to reach shophouses in this commercial cluster. Therefore, this pattern has positive implications for reducing the potential for congestion and providing marketing opportunities for shophouses in the cluster.

Although split parcels produce limited commercial land, this pattern has positive implications for land value. The parcel splitting pattern offers more opportunities for entrepreneurship due to the ease of selling small sized commercial land compare to the larger parcel in city center. Moreover, the landowner can get profit for more lots or save some lots for himself.

The coastal expansion changes the site shape and coastline through reclamation, floating and corridor pattern. Reclamation pattern is a new development through the process of creating new land. Conversely, the Floating pattern is a new development without landfilling, the building foundation structure is directly planted into the ground. Meanwhile, Corridor pattern is applied through the reclamation process first, then the parcel is divided extending towards the seafront. Afterward, new buildings are developed gradually starting from the block frontage. The side corridor is utilized as inner access to reach the waterfront commercial building and seafront public space.

The coastal reclamation can impede public access to the waterfront that is the community’s right. This land tenure has changed the nature of seafront spaces from public spaces to semi-public spaces that can only be enjoyed by hotel or restaurant guests. While the corridor pattern still provides an opportunity for the public to access the inner corridor to enjoy the sunset panorama without having to enter the restaurant. This area is an essential space to be planned as part of the urban heritage landscape because it is located in front of the Fort Rotterdam as the nearest urban tourist spot. The integrated development of tourism amenities should be planned so that it can accommodate visitors without obscuring the historical value that must be preserved. For example, create a landmark impression for Fort Rotterdam by axis and landscape design to the seafront and regulation for low-rise cafe and restaurant surrounding. Furthermore, the provision of the promenade as public access and physical constraints for development.

Site shape changes occur in commercial, accommodation, culinary, service tourism facilities, and public services that require more expansive space, additional public facilities, or shared facilities. The site shape changes used as a reference in the development and spatial planning on the urban block scale are parcels bordered by more than one access road. This pattern occurs on consolidation in width (Block A7 and C5), depth (Block D2, D14), L-Shape (Block A7, A3, B8, C3), and complex pattern (Block C2); parcel splitting with cluster pattern (Block A1); and coastal expansion with corridor pattern (Figure-10). The advantage of those patterns is increasing
building space more widely and providing opportunities for better parking management and entry/exit access, and more manageable in rescue and firefighting. Even though the new site shapes must apply more than one setback line as their parcel boundary, this provides opportunities to design green open spaces. Another benefit for the cluster and corridor pattern is that public facilities can be designed for shared parcels in a complex site.

Although some site shape changes patterns have advantages, these changes should not harm neighbors and communities in the inner block, such as blocking access to and from the inner block. Besides, the presence of several historical buildings should be preserved by not obscuring or not covering them with high rise hotel or facilities with high building coverage without a sequence of density to the heritage site.

6. Conclusion

Land use change in Makassar is inseparable from the influence of spatial planning and urban facility development. Policies to preserve historic buildings, enlarge the public space of ‘Anjungan Pantai Losari’, urban infrastructure development and reinforce the position of Makassar City as the core of the Mamminasata metropolitan area and as the third largest port city in Indonesia, provide opportunities for applying the concept of MICE-based urban tourism.

The site shape change in Makassar downtown can be categorized into four types: parcel consolidation, parcel splitting, coastal expansion, and demolition. Parcel consolidation pattern is most commonly experienced by hotel buildings, due to the needs of the number of guest capacity, accommodation service facilities, parking lots, and the addition of visitor's vehicle exit access. Parcel splitting patterns are common with the development of private offices, commercial, culinary, and public service buildings, because the space requirements for these functions are adequate for neighborhood-scale services. The coastal expansion pattern by coastal reclamation has occurred on the north side of the area facing the fort Rotterdam, and the seaside has changed visually. Demolition cases occurred in both frontage and inner block by merged some parcels for more extensive site shape. This reveals that the demolition cases indicate land preparation for new building or investment for larger construction.

The pattern of site shape changes occurred not only for expanding the existing land and building use but also for getting alternative access, widening the frontage space to attract more visitors, and taking advantage of entrepreneurial opportunities. Moreover, it also has implications for physical changes in buildings and environments such as changes in building facades with the application for window shopping, the shape of buildings from single houses to row buildings, skyline with higher buildings, urban density, and historic urban landscape.

In responding to this pattern of land change, greater control is needed, by considering the implication of site shape change to the neighborhood, access needs for residents, traffic movement including parking, the integrated development of tourism amenities and preservation of heritage. Therefore, a guideline for site shape change is needed in urban tourism development, mainly for densely mixed land use urban areas with frontage and inner blocks.

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