



The Policy of Modern Malay Residential Development Area in Siak Sri Indrapura, Riau Province

Submitted: 20 December 2016
Accepted: 20 February 2017
Available Online: 27 February 2017

Fiki Angga Putra¹, Puji Astuti²

^{1,2}Islamic University of Riau, Pekanbaru, Indonesia
fikiangga03@gmail.com

Abstract

Malay Riau culture is the root of life for measure point and rules in the development settlement on Siak Sri Indrapura City. The settlement in Siak Sri Indrapura City is characterized by the activity of the traditional community. However, the city development and the lack of government policy support threatening the sustainability of traditional settlements as well as Malay culture. This study aims to give the recommendation about the concept of development of the heritage settlements in Siak. The research method used is both qualitative and quantitative analysis through the backlog, layout, and internal-external analysis. The analysis results point out that the policy of modern Malay residential area development is urgently needed to develop and protect the heritage settlements in Siak Sri Indrapura City. The appropriate policies is by improving and maintaining the values of Malay cultural heritage in residential building and build an integrated transportation network to increase the functional values as a residence, economic, and tourism.

Keywords: development; heritage; Malay; policy; preservation; settlement

1. Introduction

Globalization has encouraged the growth of all sectors in a region or territory. One of the sectors with rapid growth is the settlement sector. The needs of the settlements become one of the main problems in various regions, particularly in Siak Sri Indrapura city. Siak Sri Indrapura City is the capital of Siak District, Riau Province and included in famous for traditional culture Malay Riau. Malay Riau culture is the basis for carrying out activities of both local communities in economic activities, social, politic, cultural, construction, and development activities. It in accordance with the vision of Siak Sri Indrapura City to become the center of Malay Riau culture in the province of Riau causing all development activities in this city must rely on Riau Malay culture and customs. The development of settlements in Siak Sri Indrapura City correlates with the royal palace Siak located in the center of Siak Sri Indrapura City and located close to the Siak River. Besides, river also becomes main natural resources in this city. Local residents in Siak Sri Indrapura City have a tradition that requires to be maintained.

The local residents abide by the traditions and customs policy related to the settlement construction and development. One of traditional policy about settlement construction and development is settlements or build houses do not higher than the Siak palace. Besides, every house has to maintain the shape of a traditional house like "Panggung Houses" and using roof typical Malay Riau or called as "Selaso Jatuh Kembar".

Heritage settlement can be interpreted as a residential area that has the characteristics of traditional buildings based on the local culture. According to Machmud (2006: 180), a traditional house defined as a house built in the same way by several generations. Another term for traditional houses is custom home or the homes of the people. Criteria for judging the authenticity of traditional houses among other habits that

¹ Corresponding Author: Islamic University of Riau, Pekanbaru, Indonesia
Email: fikiangga03@gmail.com

become an unwritten rule when the house was set or using some rituals, such as ceremonial the first pole of construction, salvation or banquet and determining the right time for houses construction. Further, there are many ordinances or rules used, such as the direction toward home, shapes, colors, decorative motifs, the building materials used, and the higher the house.

Heritage area is vulnerable due to the rapid population growth, economic development and population growth problems caused by the commercialization and cultural uniformity (Said, Aksah, & Ismail, 2013; Al-Bishawi & Ghadban, 2015). It gives new challenges for a traditional neighborhood in physical space as well as socioeconomic and behavior challenges (Al-Bishawi & Ghadban, 2015). Similarly, the old neighborhood is also susceptible due to urban development. Some of problems also occur in old neighborhood, such as traffic congestion, less compatibility among new and old feature of neighborhood especially on socio-economic aspect, lack of housing stock and basic services (Dhingra, Singh, & Chattopadhyay, 2016). Further, the traditional settlement also has challenges due to the change of socioeconomic and behavior change (Al-Bishawi & Ghadban, 2015).

The development policy of settlements in Siak Sri Indrapura City is just oriented to modern aspects like minimalist houses or just focused on technical aspects. Meanwhile, non-technical aspects, such as cultural and social aspects begin to wane and it may lead to the loss of traditional elements of Malay. Further, some of the policy of settlement construction in the Siak Sri Indrapura City also half-hearted in carrying out the activities of preservation and conservation of the heritage residential areas in this city, such as the Development Planning of Housing and Settlement (*Rencana Pembangunan dan Pengembangan Perumahan dan Permukiman Daerah* or RP4D) of Siak District Year 2014 that not accommodate the development and conservation of heritage settlements in Siak Sri Indrapura City. The total of the area from heritage residential also decreases continuously. Whereas, Nooraddin (2004) that the rule of government in all aspects such as law, administration, and lifestyle led to the transformation of traditional architecture. A compact structure of a traditional neighborhood will support the community life (Jenks, Burton, & Williams, 2005).

Maintaining the heritage settlement development is an important thing. Heritage settlement contains a cultural symbol that can be developed not only as a settlement but also have other values, especially the economic value and tourism value (Winarso & Dewi, 2010). Winarso & Dewi (2010) stated that maintaining the character and architectural value of urban heritage area will increase the economic value as well as the environment quality for tourism attraction. The intervention of local government is needed to invest the features of a traditional settlement (Dhingra & Chattopadhyay, 2016). Moreover, Jenks et al. (2005) also states that the existence the traditional settlement is important towards sustainable urban form by reducing the dependence of motorization and mixed use land use. The heritage settlement in Siak Sri Indrapura City should be developed through appropriate city development policies, such as preservation and conservation approach. The good development policy will create a comfortable and more livable settlement in modern Malay.

This study aims to create a policy of modern Malay residential development area in Siak Sri Indrapura City to preserve and maintain the value of traditional Malay Riau. The policy includes all of building a house and become its own characteristics that distinguish heritage residential area heritage in Siak Sri Indrapura City with the other heritage settlement areas in the other city. The research also will provide the recommendation about the development concept of the heritage residential areas in Siak.

2. Profil of Heritage Settlement in Siak Sri Indrapura City

2.1 Malay of Riau

Riau Malay is one of the many clumps in Nusantara or Indonesia. They came from Riau region that spreads across the region to the smallest islands which are included in the Riau Islands Province. Malay Residence can be found in the area of Riau Islands, mostly in Bengkalis, Kuantan Singingi, Siak, Rokan Hilir, Rokan Hulu, Indragiri Hulu, Kampar, and Pekanbaru region which is the royal power in the past. The Riau Malay Kingdom is also a fitting legacy of faith-based Sriwijaya Kingdom. It is explained in Muara Takus Temple, located in the center of Sriwijaya Kingdom. The Malay Kingdom started with Bintan Kingdom in the 12th century and then replaced by the Siak Kingdom.

2.2 Judicial Review

The existence of Siak Indrapura City is inseparable from the policy of settlement developments applied in this city. There are two general policies of building settlements in Siak Sri Indrapura City, i.e. the traditional policy and government policy. Both of these policies have a relation. However, there is several government policies not integrate to the traditional policies that exist in Siak Sri Indrapura City.

2.2.1 Traditional Policy

The traditional policy of settlement building in the Siak Sri Indrapura City came from Siak Royal rule. There are some of traditional policies related to heritage settlement development, such as about the shapes of traditional Malay houses, the building's height which should not be higher than the king's house or Siak palace, house should be equipped with a motif to wither like "Pucuk Rebung", and house's color adjusted to the social status. All of the houses also have a roof typical Malay called as "Selaso Jatuh Kembar". This policy is a tradition that has been known by the community. However, there are housing's

developers in the Siak Sri Indrapura City that no longer build settlements with shades of Malays due to the minimalist cost. It becomes a challenge to modern Malay residential in Siak Sri Indrapura City.

2.2.2 Government Policy

Government policies related to the heritage settlement development rooted in the Law No. 1 Year 2011 on Housing and Settlement Area (*Undang – Undang Nomor 1 Tahun 2011 tentang Perumahan dan Permukiman*) and the Law No. 11 Year 2010 on Cultural Heritage (*Undang – Undang Nomor 11 Tahun 2010 tentang Cagar Budaya*). These laws mention that preservation activities in the residential areas and settlements with heritage characteristic and preservation are required. These laws became the basis of the modern Malay residential areas to develop the area located around of Siak Palace which is the cultural heritage in the Siak District. All of the settlement development in Siak Sri Indrapura City also refers to the Long Term of Development Planning (*Rencana Pembangunan Jangka Panjang Daerah* or RPJPD) of Siak District Year 2005 - 2025, the Medium Term of Development Planning (*Rencana Pembangunan Jangka Menengah Daerah* or RPJMD) of Siak District Year 2011 - 2016, Spatial Planning (*Rencana Tata Ruang Wilayah* or RTRW) of Siak District Year 2011 - 2031, and the Development Planning of Housing and Settlement (*Rencana Pembangunan dan Pengembangan Perumahan dan Permukiman Daerah* or RP4D) of Siak District Year 2014. Some of the government's development policy supports traditional development policy by giving priority to the preservation of heritage in settlements. Nevertheless, some policies, such as RP4D, are less synchronized with the heritage settlements development activities in this city. RP4D is more oriented on the technical aspects. Therefore, it is necessary to develop modern Malay residential in this city to create the heritage settlements that still preserve the Malay cultural, economic value, and transportation.

3. Method

3.1 Framework of Methodology

The approach used is deductive approach with a general outline of the settlement in Siak Sri Indrapura City and followed by the detailed explanation on the policy of settlement construction as one of the modern Malay settlement in Siak Sri Indrapura City. Analysis method used is mixed method, both quantitative and qualitative. The data is obtained through primary and secondary survey data. The analysis techniques used are descriptive analysis, scoring analysis, SWOT analysis (external and internal condition analysis), layout analysis, backlog analysis, land use analysis, population analysis, and analysis of settlement infrastructure. The result of these analyses will be the basis to create the strategy and program for developing the heritage settlement in Siak Sri Indrapura City. Table 1 shows the point range in the result of priority location heritage settlement analysis get from sum of the point from questioner and then the highest point will be divided to four range.

3.2 Object of Research

The object of research is all of the heritage settlement area in the administration area of Siak Sri Indrapura City with consists of 10 villages or wards. The planning area is a residential area of heritage contained in eight different locations on village or urban neighborhoods then determined development priorities to be implemented.

3.3 Research Data

The data scope consists of the demographic condition, the total of housing, land settlement heritage, land use, location and condition of heritage settlements, and settlement infrastructure in Siak Sri Indrapura City. All of the data are also supported by policy data obtained settlements development policy of the Development Planning Agency (*Badan Perencanaan Pembangunan Daerah* or Bappeda) and other institution related to the research. Table 1 refers to framework of methodology of the research.

Table 1: Framework of Methodology from Policy of Modern Malay Residential Development Area in Siak Sri Indrapura

Aim: Creating a livable and resilient modern Malay residential in Siak Sri Indrapura City		
Aspect	Target 1	Target 2
Target	Develop heritage settlement with <i>swadaya</i> or organized pattern with use the Malay Riau culture.	Provision the infrastructure of settlement to increase the capacity and accessibility of heritage settlement.
Variable	a. The center of active b. Heritage settlement	a. Settlement infrastructure b. The transportation network
Aim	Preservation and reservation the Malay Riau culture in each of settlement.	Renewable, create and optimization the infrastructure in heritage settlement.
Analysis Technique	Population analysis, Backlog analysis, overlay analysis, SWOT analysis	Infrastructure and land use analysis
Data	Settlement data, population data, land use	Infrastructure and land use data.

Source: Authors Analysis, 2016

3.4 Research Framework

This study purposed to determine handling needs, strategies, and programs of modern Malay settlement building in Siak Sri Indrapura City. It also set the vision and mission of the development plan to determine the direction of policy and targets that must be in accordance with the document of settlement development in Siak Sri Indrapura City. Basically, the concept of modern Malay settlement building in the Siak Sri Indrapura City combines traditional concepts and the concept of waterfront city, thus the settlement area has economic value and the value of tourism. Figure 1 shows the research framework.

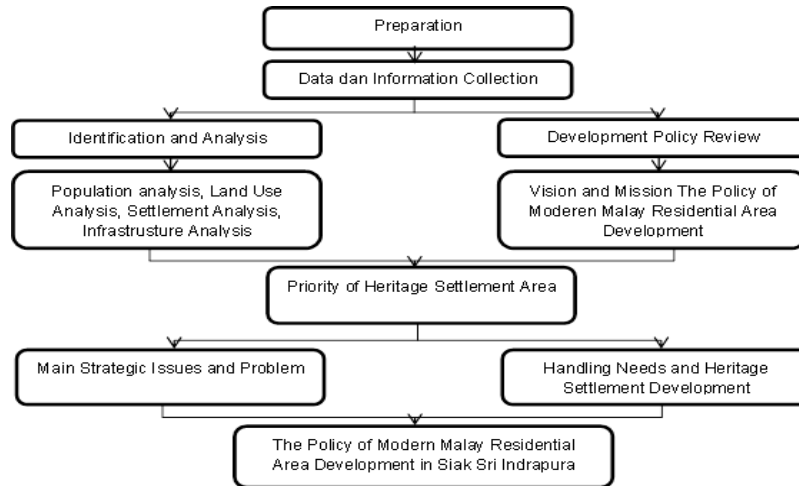


Figure 1. Research Framework
(Source: Authors Identification of Heritage Settlement in Siak Sri Indrapura, 2016)

4. Results

4.1 Population and Land Use Condition

The majority of residents in Siak Sri Indrapura are original Malay. The community made the groups and separates their residential area with retaining the Malay culture in their settlement. Traditional community is still working as fishermen and farmers to take advantage of the Siak River as the main source of livelihood and source of water for agriculture and plantation activities. The total population in Siak Sri Indrapura City is 31,708 inhabitants in 2013 (Central Bureau of Statistic of Siak District, 2013). This number will increase 5% which in 2032 the total population predicted 69,214 inhabitants. The current and prediction population in Siak Sri Indrapura City is shown in Table 2. The dependency ratio is high (78.4%) indicates that population unproductive age (lower than 15 years or more than 65 years) is high.

Table 2: Projection Population in Siak Sri Indrapura City from 2013 – 2032

No.	Villages / Sub-District	Area (m ²)	The Total of Population (Inhabitants)				
			2013	2017	2022	2027	2032
1.	KampungDalam	800	7,015	8,526	10,364	12,597	15,312
2.	KampungRempak	1,200	4,559	5,542	6,736	8,188	9,953
3.	Langkai	12,701	2,687	3,267	3,971	4,826	5,866
4.	Paluh	13,701	2,928	3,559	4,326	5,259	6,392
5.	BentengHulu	11,230	3,270	3,974	4,831	5,872	7,137
6.	BentengHilir	14,321	2,391	2,906	3,532	4,294	5,219
7.	Seimempura	44,321	4,784	5,815	7,068	8,592	10,443
8.	Kampung Tengah	10,721	355	431	524	637	775
9.	Kota Ringin	4,620	1,200	1,458	1,773	2,154	2,619
10.	SuakLanjut	15,600	2,519	3,061	3,721	4,523	5,498
Total (Inhabitants)		129,215	31,708	38,541	46,847	56,942	69,214

Source: Authors Analysis, 2016

Siak Sri Indrapura City located between two sub-districts of Siak and District Mempura. The center of economic activity located around Siak Kingdom Palace. While, the administrative center is located in the District Mempura (see Figure 2). On the other hand, the landuse condition in Siak Sri Indrapura City also strongly supports the process of development and expansion of settlements, especially heritage settlement that generally found close to the edge of the river. However, some residential areas can also be found in scattered parts Siak. Siak Sri Indrapura City consists of several types of land use, includes cultivated area and protected areas. The cultivation area is used as settlements, commerce, agriculture, plantation, and forest production areas. Meanwhile, the protected area consist as riparian and water catchment areas. The residential area in the Siak Sri Indrapura City is quite extensive (15% of the total land area 19,382 m²). This condition is sufficient to support the construction and settlement development activities.

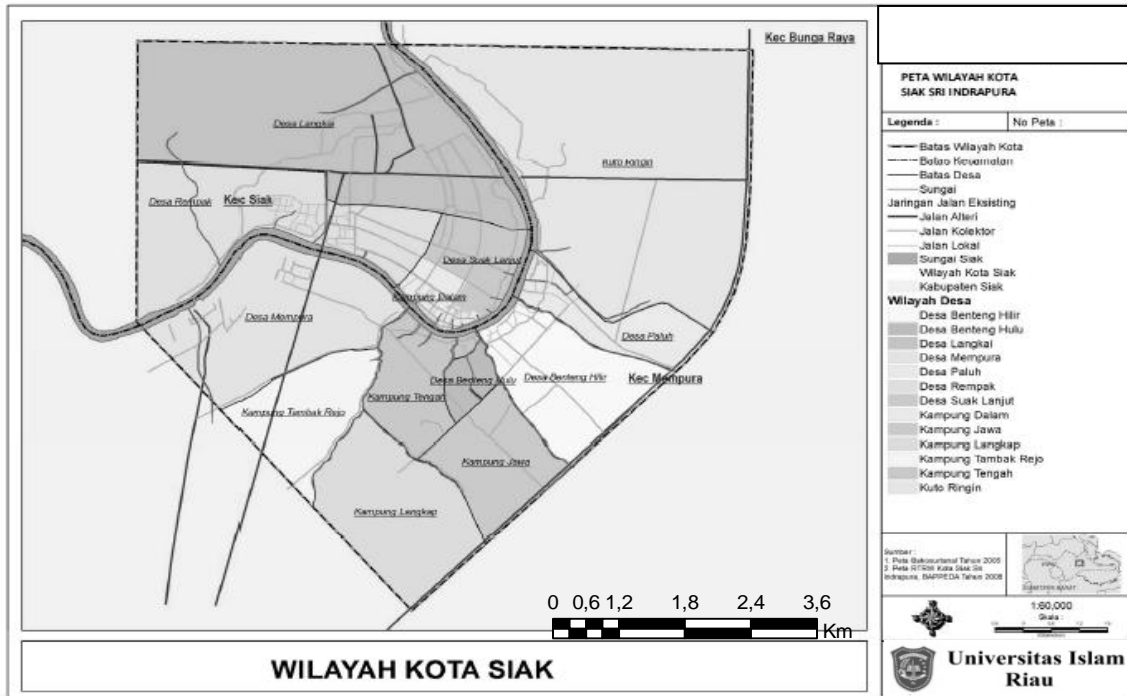


Figure 2. Administrative Area of Siak Sri Indrapura City
 (Source: Observation Results at Spatial Planning Agency of Siak Sri Indrapura City, 2016)

Figure 3 shows the land use map of Siak Sri Indrapura City. As shown in Figure 3, the settlement areas is majorly located in the riverside area and classified into heritage residential areas. The location of development and construction of modern Malay settlement is near by the Palace of Siak and riverbanks of Siak. The settlements development concept integrates traditional settlement with the concept of waterfront city in order to giving the economic value and tourism value. Moreover, the location also free from flooding and not prone to disasters.

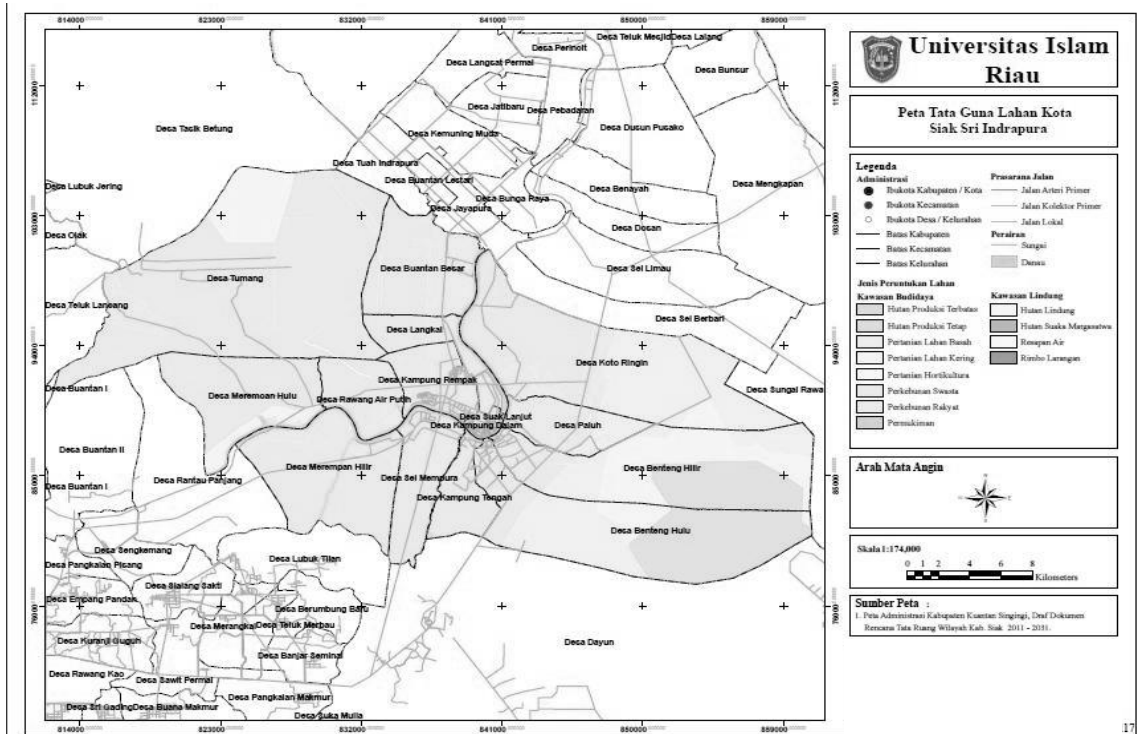


Figure 3. Land Use Map of Siak Sri Indrapura City
 (Source: Observation Results at Spatial Planning Agency of Siak Regency, 2016)

4.2 The Priority of Heritage Settlement Area

Heritage residential area Siak Sri Indrapura consists of six areas scattered in the north and south of the city. The heritage residential area can be found in Kota Ringin, Langkai Village, Kampung Dalam Village, Rempak Village, Kampung Tengah Village and Benteng Hilir Village. The determination of heritage settlement areas using multiple variables and indicators, such as land tenure, accessibility and mobility, the condition of facilities and infrastructure, and aspects of Malay culture in the each heritage settlement area. Most of the heritage settlement located near with the river which is Siak River. This river also becomes the boundaries between the regions of Siak City.

Table 3: The Result of Priority Location Heritage Settlement Analysis

No.	Heritage Settlement	Point	Point Range	Hierarchy
1.	Kota Ringin	103		IV
2.	Lankai	156	Hierarchy I (220 – 268), Hierarchy II (172 – 267), Hierarchy III (125 – 171), Hierarchy IV (77 – 124)	III
3.	Kampung Dalam	268		I
4.	Rempak	148		III
5.	Kampung Tengah	134		III
6.	Benteng Hilir	189		II

Source: Authors Analysis, 2016

A residential area that will be developed as a residential area of the modern Malay settlement area of heritage is located in the village of Kampung Dalam (see Figure 4). The residential area is located close to the Siak River, strategic, cultural heritage area king's house and the palace of Siak kingdom. All of the building houses in this heritage settlement still show elements of Malay culture but has begun displaced by the dense residential area that tends to be minimalist. Heritage settlements in Kampung Dalam also become the oldest heritage when compared with other heritage residential area in the city of Siak Sri Indrapura. Most of the population in the heritage settlement has been working as fishermen and local trader.

The origin community or traditional Malay Community in this area still holds local custom and build a house shaped "panggung" so we can call this settlement with the traditional settlement or heritage settlement. Most of the residents are descendants of the king of the kingdom. Based on the results of scoring analysis, there are six settlement areas heritage and divided into four orders, which shows the priority area for one order as explained below:

- a. Orde I (220 – 268) is Kampung Dalam heritage settlement
- b. Orde II (172 – 267) is Benteng Hilir heritage settlement.
- c. Orde III (125 – 171) is Langkai, Rempak, and Kampung Tengah heritage settlement.
- d. Orde IV (77 – 124) is Koto Ringin heritage settlement.

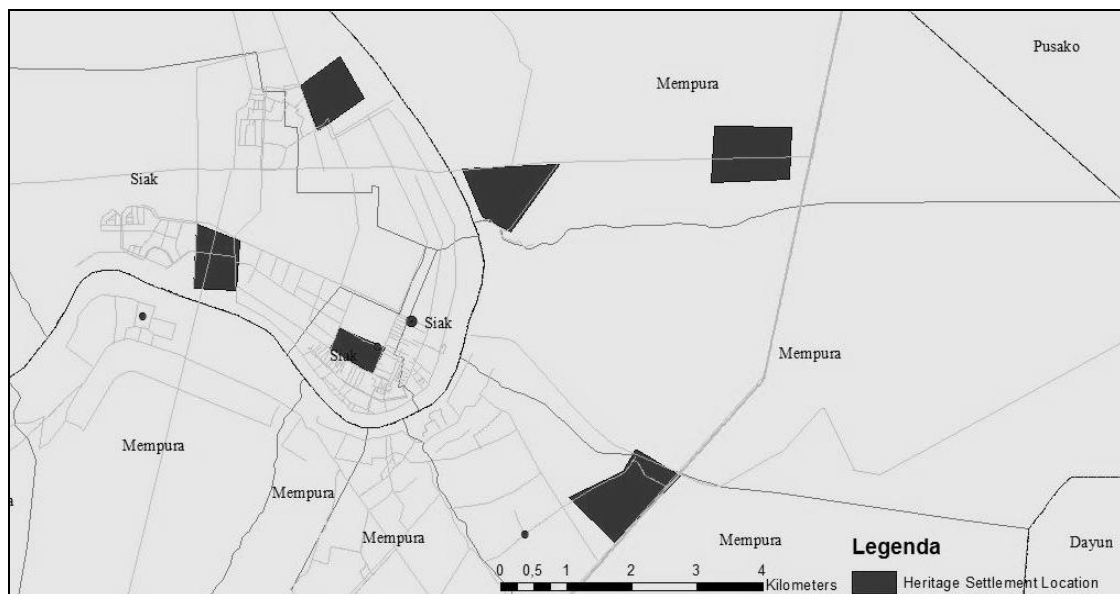


Figure 4. Modern Malay Residential Area in Siak Sri Indrapura (Source: Field Observation, 2016)

4.3 Heritage Settlement Development Needs

The number of housing is highly related to development activities of modern Malay settlement area in the City of Siak Sri Indrapura. The growth rate of households in Siak Sri Indrapura City is 1.31%. The number of households in the city of Siak Sri Indrapura in 2017 is estimated about 9,635 families while in 2032 predicted 17,304 households. Meanwhile, the total of house in 2013 is 6,854 units. Thus, there is a

correlation between the increasing number of population and the housing needs. The demand of settlement development is also increasing rapidly (Figure 5). Therefore, it must be accommodated by a strategy and program settlement development in Siak Sri Indrapura City, so the preservation of heritage can be sustainable. Each of residential housing developments in Siak Sri Indrapura City characterized as the Malay Riau identity needs.

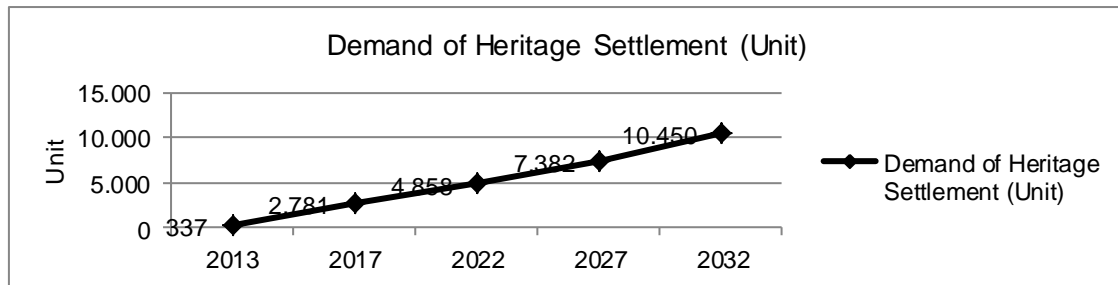


Figure 5. Demand of Heritage Settlement in Siak Sri Indrapura City (Source: Authors Analysis, 2016)

4.4 Infrastructure of Settlement Development Needs

Infrastructure is the aspect of supporting a wide range of activities to be implemented in the heritage settlement. Analysis of the infrastructure requirements done by using a Indonesian National Standard (SNI) 03-1733-2004 on Planning Procedures for Residential Zone (National Standardization Agency of Indonesia, 2004). Generally, the condition of infrastructure in the heritage settlement area of Kampung Dalam supports the development of modern Malay settlement. Based on infrastructure analysis in heritage settlement of Kampung Dalam, the development of infrastructure network develop is necessary between internal settlement with external city in Siak Sri Indrapura and make the entire infrastructure network integrated. Table 4 shows the infrastructure needs in heritage settlement of Kampung Dalam.

Table 4: Infrastructure Development Needs in Kampung Dalam

No.	Infrastructures	Infrastructures Additional in 2032
1.	Education Facility	Additional 14 Unit of Kindergarten, 6 unit of Elementary Schools, and 4 Unit of Senior High Schools
2.	Hospital Facility	Additional 10 Unit of <i>Posyandu</i> (Local Community Medical Center)
3.	Liturgic Facility	Additional 1 unit of Church and <i>Vihara</i>
4.	Road and Drainage	Development 196 kilometers of Road and 392 kilometers of drainage
5.	Water Installation	Needs 1,576,420 liter per day
6.	Waste Management	Additional 21 unit of garbage bin and 1 unit of waste installation and development integrate waste management
7.	Sanitation Installation	One unit of sanitation truck
8.	Electricity and Telecommunication	One unit of PLTD and one unit of Internet Center, and development the integrated telecommunication system

Source: Infrastructure Analysis Result for Kampung Baru Heritage Settlement, 2016

Functionally, this residential area is close to the center of Siak district government so that the distribution infrastructure in the settlement area is fulfilled and evenly when compared to other residential areas in the city of Siak Sri Indrapura. This settlement area has been integrated with a system of garbage disposal, sanitation, and water City of Siak Sri Indrapura City. Thus, the heritage settlement area is very feasible to be developed as a modern Malay residential area is supported with the good settlement infrastructure. The condition from all of the settlement infrastructure type in the settlement area is already fairly complete. The problem about settlement infrastructure in this area is the level of service that is not optimal, especially water and sanitation are not reached 80% rate (see Figure 6).

4.5 Modern Malay Residential Development Strategy and Program

The strategy and program of modern Malay residential area development obtained from the SWOT analysis carried out in the residential area of heritage Kampung Dalam. The analysis involves internal factors that consist of strengths and weaknesses as well as external factors which consist of opportunities and threats. Heritage settlement in Kampung Dalam basically likely to be developed as a modern Malay settlement area due to the great potential and can be developed as an economic regional growth center. The settlement area may also be an attraction for tourists in Siak Sri Indrapura City.

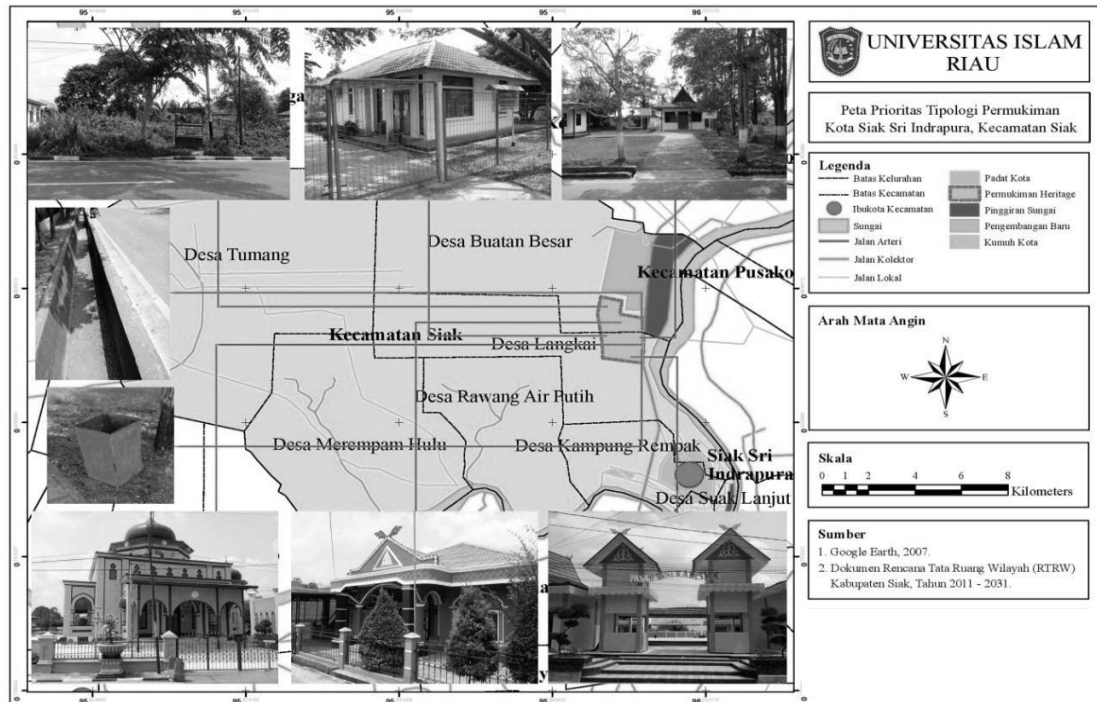


Figure 6. The Condition of Heritage Settlement Infrastructure in Siak Sri Indrapura City (Source: Field Observation, 2016)

Table 5: SWOT Analysis for Relation between the Strengths (Internal Factors) with the Opportunity – Threats (External Factors) for Kampung Dalam Heritage Settlement

		External Factors	
		Opportunity	Threats
Internal Factors	Strengths	A. Improve and maintain the values of Malay cultural heritage in a residential building in Siak Sri Indrapura City.	A. The need for the construction and development of a children’s playground or public space in order to be worthy of settlement area for children and public in Siak Sri Indrapura City
		B. The need for settlement habitable to tackle the problem of heritage settlement in Siak Sri Indrapura City.	B. The need for the construction of drainage network as rain water drains.
		C. The need for improving the quality of public institutions to overcome the problem of heritage settlement.	C. The need for the expansion of the road network and water transportation to improve mobility and accessibility of settlement.
		D. The optimizing condition of Settlement and environmental because the location is quite a strategy, thus supporting the growth and development of the region or Siak Sri Indrapura City.	D. Need for building Garbage Disposal Temporary to solve the problem of water generation in Siak Sri Indrapura City.

Source: Authors Analysis, 2016

Table 6: SWOT Analysis for Relation between the Weaknesses (Internal Factors) with the Opportunity – Threats (External Factors) for Kampung Dalam Heritage Settlement

		External Factors	
		Opportunity	Threats
Internal Factors	Weakness	A. Need to consolidation of land to reorganize the heritage residential area of the city in order to become more organized	A. Must be an increase in the quantity and quality of the infrastructure in the heritage settlement area.
		B. Monitoring of the land use in around of heritage settlement so there is accordance with the spatial plan (RTRW).	B. Conduct periodic maintenance of the facilities and infrastructure of settlements to reduce the negative impact that may be caused to the heritage residential areas of this city.
		C. The need for revitalization of building that area not permanent and are not habitable.	C. Need for heritage or Malay residential area development planning with due respect to the physical and non-physical aspect in this area.
		D. The need for the socialization of the importance of the letter land owning and building right for the local community.	

Source: Authors Analysis, 2016

Based on the analysis and identification of internal and external conditions, it can formulate its vision and mission as some form the policy of modern Malay residential area development in Siak Sri Indrapura. Vision and mission is the basis for the determination of strategies and programs priority heritage building settlements in Kampung Dalam. The vision of this development is "To create the Modern Malay Residential in Siak Sri Indrapura is Organized, Insightful Malay, and Sustainable Settlement supported by Good Infrastructure Year 2032 ". That vision is translated into several missions. Mission priority is to create a heritage characterized by Malay settlements in Siak Sri Indrapura City habitable by upholding local culture and customs. The policy of modern Malay residential area development in Siak Sri Indrapura City implemented to strategies and programs in settlements Malay modern. Table 7 shows the strategy and program for the residential development in Siak Sri Indrapura City.

Table 7: Strategy and Program for Modern Malay Residential Development in Siak Sri Indrapura City

Strategy	Program	Period				Executor	Sources of Fund	Location
		I	II	III	IV			
Improving and maintaining the values of Malay cultural heritage in residential building in Siak Sri Indrapura City	Development housing base on Malay Riau culture project	X	X	X	X	Residential Development (<i>Pengembangan Permukiman</i>) and Public Work (PU)	APBD	Heritage Settlement in Dr. Sutomo Street, Kampung Dalam, Siak Sri Indrapura City
Build an integrate transportation network to improve local transportation (water basic) and support the economy and tourism.	Development integrate water transportation network program.	X		X		Development Planning Agency (Bappeda) and PU	APBD	

Source: Authors Analysis, 2016

Strategies and programs in Table 7 will be implemented in accordance with the period, executors, sources of funds, and a predefined location and also the holding company for strategy and program development of modern Malay settlement will be held in the city of Siak Sri Indrapura. Strategy and the orientation program on the physical and non-physical to support the development of modern Malay settlement in Kampung Dalam. Modern Malay settlement development program is featured in the program strategy document settlement and settlement infrastructure in the City of Siak Sri Indrapura. Strategy and the program are then implemented into concept development that the reference in the development of heritage settlements in Siak Sri Indrapura City. The strategy and the program also aims to reserve and preserve the cultural values contained in each building in the city of Siak Sri Indrapura. Thus, the construction carried out will not threaten local culture and local traditional.

4.6 Modern Malay Residential Development Concept

The strategy and program of heritage settlement development in Siak Sri Indrapura City not only focused on infrastructure development activities related to the physical aspects but also the non-physical aspects of cultural and social sectors. This concept aims to maintain Riau Malay cultural values. Based on the overlay technique, the heritage residential area in the Kampung Dalam is potential to be developed as a modern Malay residential area due to its strategic location. The development pattern of the initial study area grows linearly growing along the main road and along the edge of the Siak River. These routes transportation has high accessibility. This area generally bypassed by the deepest river in Indonesia, the Siak River. Heritage planned residential area can be divided into several parts, namely the settlement area, the area of trade and services, the area designated social, and entertainment facilities. The location of modern Malay residential development in Siak Sri Indrapura is shown in Figure 7.

In the policy of modern Malay residential area development, the channel is planned as the local transportation supporting the tourism activity. Besides, the channel also has a function as the center of activities for the rural community around the channel. The heritage residential area is developed and built based on the values of Malay culture to create a complex of houses on stilts that can be used as supporting tourism, as well as a home help for poor people to create a livable living. Heritage settlement area planned upholds the values of Malay culture, namely through the physical form of buildings designed with style Malay shaped "Panggung" and using "Pucuk Rebung" pattern. Figure 8 shows the concept of modern Malay residential development in Siak Sri Indrapura City.

According to the analysis result, there are about 24,006 of housing units in 2013 in this heritage building settlements located upstream and downstream of the plan area, with each area of 14.5 × 15.5 m². In this planning, the area is also planned construction of trade and services in the form of shops selling crafts and goods distinctively Malay Siak. The home stay is also need to be built in this area as the service for tourism activity. The home stay should symbolize all custom homes in the province of Riau. The home stay is located along the canal and in the middle of the canal. Figure 9 shows the concept of culture center building.

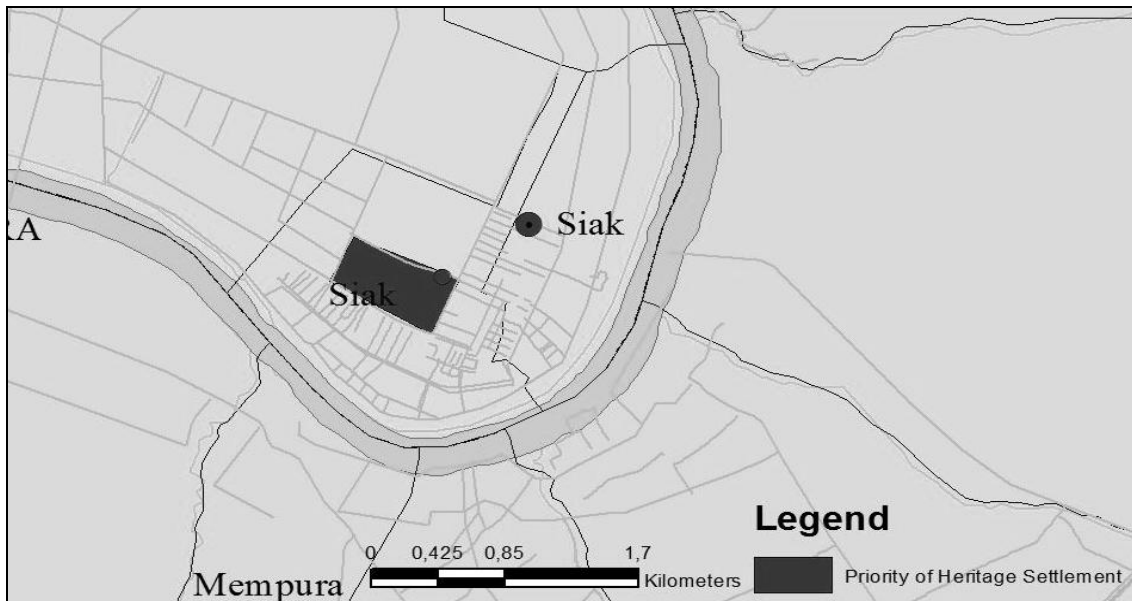


Figure 7. Location of Modern Malay Residential Development in Siak Sri Indrapura City
(Source: Authors Analysis, 2016)



Figure 8. Concept of Modern Malay Residential Development in Siak Sri Indrapura City
(Source: Authors Analysis, 2016)



Figure 9. Concept of Culture Center Building
(Source: Authors Analysis, 2016)

5. Discussion

5.1 Present Policy Versus Traditional Policy in Settlement Development

The policy of settlement building in Siak Sri Indrapura City refers to the development of government policies and traditional development policies. It is necessary to integrate the development policies of the government and traditional policies that already exist in traditional Malay Riau society. The policy of settlement from government tends to be technical while the traditional policy of settlement development is anon-technical form of cultural and social. Thus, by integrating between the two policies is the modern Malay settlement activity can be implemented in Siak Sri Indrapura City. However, the two policies are still

contradictory, but already there is awareness of the government's back revitalizes and preserves the heritage settlements. Based on these problems, it needs joint discussions between the indigenous group and the government in Siak Sri Indrapura City to formulate and arrange the integrated policy in settlement development.

5.2 Challenges for Modern Malay Residential Development

The construction and development of modern Malay settlement in Siak Sri Indrapura City face some problems, such as lack of awareness of the developer to build a residential area of heritage or maintain the Malay value at each building. Cost, the efficiency of land, and the demands of the times become the main factors. The land area settlement heritage, especially in Kampung Dalam has experienced a reduction since most homes have become modern and minimalist houses. Besides, the cost to build and maintain their homes with the Malay characteristic also requires an expensive cost. Land status around the palace also belonged to the kingdom. Therefore, the expansion of residential areas is also facing some problems. Moreover, the other challenge is the development of integrated systems of water transportation. Water transportation is a priority in the aspect mobilization for the development of modern Malay settlement in Siak Sri Indrapura City. It caused by most of the people in this city still use water transport to perform the activity. Figure 10 shows the development of integrated water transport in Siak Sri Indrapura City.



Figure 10. Development of Integrated Water Transport
(Source: Authors Analysis, 2016)

5.3 Influence the Concept to Economic Sector

The development of modern Malay settlement will certainly attract tourists to visit this city. Malay modern residential area to be built is right beside of Siak River and is located in the heritage area of the Palace of Siak Kingdom. Thus, this region will become a major destination in Siak Sri Indrapura City. This condition is similarly with Winarso & Dewi (2010) who stated that maintaining the heritage settlement will increase the economic value as well as the environment quality for tourism attraction.

In addition, the settlement area also has economic value, which in this area will be built a trading center and nuanced services either selling souvenirs or traditional foods of Malay Riau. Local economies will continue to growth and social welfare will increase. Economic growth is also supported by the exploited canals kingdom as water transportation that connects small boats inland settlements with the central part of modern Malay settlement. Thus, its economic activity will continue to grow through the application of this concept. The building of economic, such as the market is also required to form Melayu building shape. It becomes the main attraction for the settlement area in line with its function as the economic center. This concept will support Siak Sri Indrapura City become one of "Kota Pusaka" in Indonesia country. The concept of economic center in Kampung Dalam Heritage settlement is shown in Figure 11.



Figure 11. The Concept of Economic Center in Kampung Dalam Heritage Settlement
(Source: Authors Analysis, 2016)

6. Conclusion

The policy of modern Malay residential area development is urgently needed to develop and protect the heritage residential area located in Siak Sri Indrapura City, especially in Kampung Dalam. This area has a potential to be developed either from physical and non-physical aspects. The development of modern Malay settlement area enhances economic growth in the region by integrating the residential areas with trade and services in the region. The value of Malay culture on each heritage building in the settlements would be economic and tourism opportunities that can improve the opinions of locals. In addition, it takes integrating current government policy with the traditional policy prevailing in traditional Malay society so that development activities in accordance with the needs of the Development policy.

The policy of Modern Malay residential area development orient to reserve and preservation of heritage settlement Siak Sri Indrapura City and also solve the problems to develop this settlement. The heritage residential area, especially in Kampung Dalam, becomes attractive, livable, and resilient heritage settlement. The priority of the policy of modern Malay residential area development is to increase and maintain the value of the Malay culture on settlement building and build a transportation network in the form of Canals to develop and integrate the local transport and support economic activities and tourism.

References

- Al-Bishawi, M. A., & Ghadban, S. S. (2015). Physical space, social behaviour and socioeconomic changes in traditional neighbourhoods: A case study of the traditional city of Nablus. *City, Culture and Society*, 6(4), 125-133. doi:10.1016/j.ccs.2015.06.002.
- Central Bureau of Statistic of Siak District. (2013). *Siak District in the figure 2013 (Kabupaten Siak dalam angka 2013)*. Siak Sri Indrapura: Central Bureau of Statistic of Siak District.
- Department of Public Works, Spatial Planning, Public Housing and Settlement of Siak Regency. (2014). *Development Planning of Housing and Settlement of Siak District Year 2014 (Rencana Pembangunan dan Pengembangan Perumahan dan Permukiman Daerah (RP4D) Kabupaten Siak Tahun 2014)*. Siak Sri Indrapura, Riau: Dinas Pekerjaan Umum, Tata Ruang, Perumahan Rakyat dan Kawasan Pemukiman Kabupaten Siak.
- Development Planning Agency of Siak District. (2005). *Long Term Development of Siak Regency Year 2005-2025 (Rencana Pembangunan Jangka Panjang Daerah (RPJPD) Kabupaten Siak Tahun 2005 – 2025)*. Siak Sri Indrapura, Riau: Bappeda Kabupaten Siak.
- Development Planning Agency of Siak District. (2011). *Medium Term Development of Siak Regency Year 2011-2016 (Rencana Pembangunan Jangka Menengah Daerah (RPJMD) Kabupaten Siak Tahun 2011 – 2016)*. Siak Sri Indrapura, Riau: Bappeda Kabupaten Siak.
- Development Planning Agency of Siak District. (2011). *Spatial Planning of Siak Regency Year 2011-2031 (Rencana Tata Ruang Wilayah (RTRW) Kabupaten Siak Tahun 2011 – 2031)*. Siak Sri Indrapura, Riau: Bappeda Kabupaten Siak.
- Dhingra, M., & Chattopadhyay, S. (2016). Advancing smartness of traditional settlements-case analysis of Indian and Arab old cities. *International Journal of Sustainable Built Environment*, 5(2), 549-563. doi:10.1016/j.ijse.2016.08.004.
- Dhingra, M., Singh, M. K., & Chattopadhyay, S. (2016). Rapid assessment tool for traditional Indian neighbourhoods: A case study of Alwar Walled City in Rajasthan. *Sustainable Cities and Society*, 26, 364-382. doi:10.1016/j.scs.2016.06.015.
- Jenks, M., Burton, E., & Williams, K. (2005). Compact cities and sustainability: An introduction. In M. Jenks, E. Burton, & K. William (Eds.), *The compact city: A sustainable urban form? London: Spon Press*.
- Machmud. (2006). *Bangunan – bangunan tradisional Melayu*. Pekanbaru: Seroja Press.
- National Standardization Agency of Indonesia. (2004). *Indonesian National Standard (SNI) 03-1733-2004 on Planning Procedures for Residential Zone (Tata Cara Perencanaan Lingkungan Perumahan di Perkotaan)*. Indonesia: Badan Standar Nasional (National Standardization Agency) of Republik Indonesia.
- Nooraddin, H. (2004). Globalization and the search for modern local architecture: Learning from Baghdad. In Y. Elsheshtawy (Ed.), *Planning middle eastern cities: An urban kaleidoscope in a globalizing world*. London: Routledge.
- President of Republic Indonesia. (2010). *Law No. 11 Year 2010 on Cultural Heritage (Undang – Undang Nomor 11 Tahun 2010 tentang Cagar Budaya)*. Jakarta: Government of Republic Indonesia.
- President of Republic Indonesia. (2011). *Law No. 1 Year 2011 on Housing and Settlement Area (Undang – Undang Nomor 1 Tahun 2011 tentang Perumahan dan Permukiman)*. Jakarta: Government of Republic Indonesia.
- Said, S. Y., Aksah, H., & Ismail, E. D. (2013). Heritage conservation and regeneration of historic areas in Malaysia. *Procedia Social and Behavioral Sciences*, 105, 418-428. doi:10.1016/j.sbspro.2013.11.044.
- Winarso, H., & Dewi, C. (2010). Urban heritage conservation in Aceh, Indonesia: Conserving *Peunayong* for tourism. *Asean Journal of Hospitality and Tourism*, 9, 15-28.