

## A River That Flows Forever: The Lost Glory of Malay Waterways

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**Abstract:** When an anthropologist discusses the concept of change in society, he typically refers to changes that are regarded as profound. The process that brings about the change encompasses a lengthy period of time, which the vast majority of society does not typically recognise. The majority of significant changes are typically caused by cultural contact, particularly the influence of large civilisations on small communities. Recent colonisation and international trade activities have resulted in the convergence of diverse cultures. Typically, these encounters result in the transformation of cultures that are subjugated or controlled in some way. The Malay culture is one example of a society that has undergone such transformations in the last thousand years or more. Malaysian society is a relatively recent historical phenomenon. Several Malay communities along the Kelantan River in Kota Bharu, Kelantan, were chosen for the research. This study's purpose is to examine the effects of the destruction of Malay settlements and the transformation of Malay transportation. A total of 350 respondents were chosen at random and supported by interviews, observation, and visual analysis to generate a discussion of the study. Destruction of Malay settlements and changes in transportation have contributed to the vulnerability of Malay identity in the face of urban experience.

**Keyword:** Malay Settlement Malay Community, Sustainable Cities and Communities, Urbanization, Urban Sustainability

### 1.0 Introduction

Cultural heritage is important in the development of a city, and when well-developed, it can increase the liveability of the surrounding area (Roders & Van Oers, 2011). Malay settlements, which have high historical and cultural value, are extremely crucial in a city. Malay settlements play an important role in shaping the history of a city's existence. As a result, it is important to preserve Malay settlements to preserve Malay culture and heritage and ensure that Malay settlements do not devolve into squatter areas (Musywaroh et al., 2017). Kota Bharu still has several Malay settlements that currently exist. These settlements underwent physical and non-physical spatial changes over time. Kampung Atas Paloh, located near the Kelantan River, is one of them. Kampung Atas Paloh and its surroundings are one of the urban villages in Kota Bharu with high historical value due to its important role in the 18th and 19th centuries. The Malay settlement served as a hub for global trade in services and logistics (Abdullah et al, 2022). The presence of these centres impacts the development of Malay settlements populated by Malay people. However, as the use of transformation routes shifted to land transportation in the twentieth century, these settlements saw a decline in regional function. Rivers are no longer the primary mode of transportation. This contributed to the transformation of identity and culture in Malay settlements. From time to time, transformation occurs in the economic, political, and social structures and people's lifestyles. Finally, the pace of urbanisation continues to impact the river's function, which has an impact on the Malays' identity in the city.

### 2.0 Activity and the Cultural Transformation

The transformation of functions in terms of economic, social, and cultural transformation is one of the impacts of globalisation. From time to time, changes occurred in the Malays' economic, political, and social structures and their way of life. Globalisation is a key term in the process of urban Malay settlement transformation. Globalisation has an impact on a region's environment and culture (Noha, 2014; Abdullah et al, 2022). Globalisation has a significant impact on urban development in various ways. The current shape and arrangement of the city is a form of gradual transformation from generation to generation, in which inter-generational generations impact physical, political, economic, and social institutions (Thorns, 2002). The existence of settlement transformation is also due to various factors, such as an area's function or value, activities in it, and so on. This process is related to the presence of a tourist attraction and the value of a location's land (Dowall & Treffeisen, 1991). The causes and manifestations of functional transformation in a city or region can vary so widely that they cannot be generalised. Distribution and transformation patterns are difficult to generalise from one city to the next (Fang & Knox, 2015). Since the 18th century, rapid urban transformation has occurred gradually, on a large scale, and with destructive results. On the other hand, it raises serious issues concerning heritage city conservation, particularly in developing countries (Karimi, 2000). This has an impact on the Malays' way of life and culture in the city.

### 3.0 Methodology

Strong ties exist between Malay human settlements and river activities. Combining a case study and longitudinal analysis of the progress of urbanisation in Malaysia as well as the evolution of the literature on human settlement theory and the urbanisation process in Malaysia, this paper employed a mixed-method approach that is commonly employed in social research. A case study of a Malay settlement in Kota Bharu clarifies the scenario of the findings as a result of the rapid urbanisation, from which the recommendations and discussions are derived. This area was chosen because it is the oldest settlement in Kota Bharu and is both historically and culturally significant. This region is the birthplace of the metalworking and woodworking skills that became Kelantan's trademark. The primary data was obtained from the 2019 questionnaire administered during fieldwork. Using a random sampling technique, the case study area received the questionnaire. The techniques of direct and participant observation, visual analysis, and interviews were used to gain a better understanding of the environment and culture of the locals, which were heavily influenced by their daily activities. The researcher in the area distributed a total of 350 questionnaires through a variety of methods, including face-to-face interviews, group meetings, and research assistance from the local villagers, all of which impeded access in the region. Even though there are 89 questions on the survey, only the variables pertinent to this paper's topic

are extracted and discussed in the context of the relevant field. With the assistance of the Drone Dji Mavic Mini 1 and the area's longitudinal history, the researcher was able to visualise the settlement change, which was then cross-examined with the theory and respondents' interviews.

**4.0 Case Study: Malay Settlement Along the Kelantan River Fringe**

A significant aspect of Kampung Jalan Atas Paloh was the presence of multiple settlement units (Figure 1). The village's name derives from the influence of a particular person or activity that exemplified the greatness of the Malay community. People have a tradition of naming their villages after notable figures. Even though there are only a few settlements, they report every activity or person in their neighbourhood to the village. Kampung Menuang is one of the surviving communities. The copper industry, which produces pottery and other copper-based products and also includes the production of gold coins known as "ufti" (tribute) for trade with the Siamese Kingdom, employed the majority of residents in these settlements historically.



Figure 1: Map and image of the study area

The same situation happens at Kampung Haji Harun, adjacent to Tok Semian Road. Tok Aki Haji Harun, a religious figure in the neighbourhood, is responsible for the existence of this settlement. Consequently, his name has been perpetuated as a village name to honour his leadership. Kampung Haji Harun has long had kinship and strong brotherhood. The rest of the people that live here are connected to each other by blood. Tok Aki Haji Harun, the institution's founder, has invited his relatives to dwell near his family. It is believed that there were only three settlements at the beginning of this village. They even built small bridges, or "titi," in the kitchen area to link one settlement to another because of their close bond. The Council School (Sekolah Majlis), now known as the Muzium Majlis dan Adat Istiadat Agama Islam Kelantan, and the traditional religious institution in Kampung Kubang Pasu, are among the religious institutions and schools at Jalan Post Office Lama that are badly affected by urbanisation. According to Doxiadis (1974), his global study shows that, while each town's physical land is diverse, the patterns of these towns will be the same as they spread and develop over the whole world. It is because of the relatively small size of the village. Nevertheless, due to their robust economies centred on cattle breeding and hunting, other areas, such as the river and the hills, would be more vulnerable to geographical stratification. According to McGee (1975), a community and a state are formed for three reasons. First, there has been a rise in population in the past and a shift from rural to urban settlements. The second reason is the increase in birth rates in comparison to death. The natural progression is unavoidable. The third reason is the migration of people from rural to urban regions. They are important urban and economic drivers.

**5.0 Analysis: The Distance to the City**

In Malay human settlements, followers of the Sultan mostly live in the area around the palace, which is located in the urban area. Because it is a short distance from the palace, this factor has led them to establish a settlement. Initially, it grows on a small scale. The area around the palace eventually became an active area with various activities by the villagers. The location of the palace is built near rivers in cities such as Kota Bharu, which is an ideal location. The convenience of the river in terms of communication and access to the city. According to A. Aziz & Syed (2010), the size of a settlement will determine the symbol of a government. It shows the power of government in terms of power and wealth possessed by the Sultans. The pattern of settlement during that time was built in clusters based on the number of family members and relatives, as is the case in Kampung Atas Paloh, Kampung Kubang Pasu, and surrounding areas. This approach ultimately combines a harmonious atmosphere with its surroundings, including humans and nature. The questionnaire of 350 respondents (n = 350) found that the majority of residents said that the distance from the settlement to the city is less than 1 kilometre. This finding is supported by Table 1, which shows a total of n = 227 people, equivalent to 64.9% of settlements less than 1 kilometre away. On the other hand, 43 respondents (12.3%) live less than three kilometres from the city.

Table 1: Distance to the city (n = 350)

Item	Frequency	Percentage
Below 1 km	227	64.9
1 km	80	22.9
2 km	43	12.3
Total	350	100.0

These findings indicate that the settlement areas located in the city are the primary choice of the residents. In addition, this phenomenon also shows that the residents here have an open mindset as they are exposed to the urban environment. The rapid growth of the city influenced their thinking indirectly. Therefore, they are able to accept any changes that may exist in the surrounding area. These changes make their lives change, either for the better or vice versa. According to an interview with respondent R-13, he said as follows: *'... there have been many changes taking place in this area. Once the area is dominated by Malay settlements, and we live in very harmonious lifestyle. Most of the residents are original people here. Now a lot has changed. Many original people have moved out and bought homes in other areas. Those who migrate will rent their houses here...'* (R-13).

The preceding statement indicates that some of the original inhabitants have relocated. It indicates that, despite the proximity to the city, there are still residents who have migrated. Even though distance and location play a significant role in a settlement, comfort and other opportunities must also be considered. Observations revealed that the dense population density and inadequate infrastructure made the

settlements here filthy and unmanageable. Due to this community's urban location, its inhabitants are exposed to the rate of urbanisation. The area eventually became unmanageable due to rapid urban sprawl. Despite the fact that the region was once a prosperous settlement, it is no longer conducive to a comfortable Malay settlement. Observations also revealed that, now that the past's glory has faded, all traces of human settlement are gradually disappearing. Historically, human settlement depended on cities and rivers for its existence. Currently, the relationship has ended. This separation has affected the pattern of life within the city. Both city and river activities were essential to the success of the Malay settlements, but they have since been separated. Consequently, distance continues to play a significant role in determining the effects and impact of settlement. Additionally, the distance to the city will alter the population's thought processes. They are more susceptible to the city's pervasive influence. Observations indicate that they also pay attention to the issues and news that affect their daily activities. They will adopt the lifestyle of other urban communities. Continue to disregard the connection between everyday life and river activities. This circumstance will force them to live as other ethnic groups do. Unlike in the past, when the Malay population was highly dependent on river activities, they no longer require a connection to the river. Observations also revealed that their lifestyle was comparable to that of other urban communities in terms of daily activities, dress, and behaviour, indicating that this community had an "urban lifestyle."

*...I have never been to the river because there are not important in daily life. All daily necessities can be purchased at the market only. I also took a vehicle to go to town ...'(R-2)*

The above statement has shown that their lifestyle is no longer like a traditional Malay society concerned with the river. This finding is in line with the opinions of Kostov (1992) and Van (2020), stating that each city has its own story and narrative based on the location and circumstances in which it exists, i.e., its own urban form and experience. To some extent, new cities will continue to be built around the world, they will be significant and on a small scale. Regardless of its many stories, experiences, and narratives, there is one constant in new future cities: unpredictability. Through observation, a village that was once a small Malay settlement was transformed into a dense urban population area. Therefore, most of the settlements in Kota Bharu have turned into complex settlement challenges and problems, particularly in terms of urban infrastructure. Even so, life in the city is still the main attraction in society nowadays. This situation is because there are many amenities and content in modern life available in the city. Examples include transportation, business opportunities, better education, health, and recreational facilities. These findings align with previous studies by Lagakos (2020), Schultz (1971), Andersen (2002) and (Abdullah et al, 2022), with the general notion that a city is an attraction for various human needs. Indirectly, distance is one of the elements in shaping global exposure to society here. Due to its location in the city, their ideas and thoughts also change, and they can accept global change. The observations also show that Malay settlement has many levels and different types depending on the place. This level includes various groups and various social and personal background profiles, such as businessmen, employees, schoolchildren, parents, people with disabilities, and more. This plethora of social strata gives this community a distinct character. From here, there are various types of settlements that highlight the image and character of the place.

*...there are many levels of society living here. Some work in the government and private sectors. There are also traders ...'(R-15).*

Now the residents will be directly involved in various human settlement-related activities outside the city. If, in the past, farmers in rural areas did not experience urban life, they now, due to urban sprawl, have experienced the effects of urbanisation. Due to the process of urbanisation, they also experience the same way of life. Perhaps his wife works in a nearby town, or his son attends school there. Perhaps he also owns a city office and works in the city. Consequently, they have lived in an urban environment. These results are consistent with the opinion (Doxiadis, 1974). He acknowledged that the majority of people would experience the urban system as the distance between the region and the city decreased.

### 5.1 The Transportations in Malay Settlement

Transportation is a means used by people to move from one place to another. Previously, boats were the main mode of transportation because the Kelantan River is rich in various socio-economic activities. However, after the Industrial Revolution, the use of boats by the Malay people slowly increased. This finding is supported by Table 2, which shows that 208 respondents (59.4%) use cars as transportation to the city. Currently, a car is regarded compulsory for a settlement owner, while 11 respondents (n = 3.1%) use taxis to go to the city.

Table 2: The Vehicles (n = 350)

Item	Frequency	Percentage
Boat / Perahu	5	1.4
Car	208	59.4
Taxi	11	3.1
Motorcycle	113	32.3
Bicycles	13	3.7
Total	350	100.0

This indicates that automobile use is prevalent in the study area. The primary reasons are that it is quick and safe from a weather perspective. In addition, this vehicle can accommodate a large number of passengers simultaneously. Observations revealed that the majority of Malay individuals owned a vehicle. Cars are now a necessity for settlement residents. It has changed from the previous instance. Nonetheless, their socioeconomic circumstances have not changed.

*...we went to town by car because it was faster and easier to move. There are many more vehicles on the road ...'(R-9).*

The city only provides employment opportunities for them. Meanwhile, the level of infrastructure in the city is still at a terrible level. Observations found that the roads and parking lots in the area were also in bad condition. Most vehicles are parked on the side of the road, which will affect others. This situation also shows that urban planning now only focuses on the transportation sector, human lifestyle, and industrial development. But not to urban infrastructure. Although these settlements are located in the city, they do not feel the progress of life in the city because the progress only occurs in the urban economic sector. Therefore, their standard of living has not changed. In addition, their lives will always be stressful, and they will eventually fall into urban poverty.

*...with my income now, it is pretty challenging to live in the city. My salary is not high. While the cost of living is always increasing ...'(R-28)*

This finding is consistent with Wahid's (2014) and Abdullah et al (2022) assertion that urban areas are a source of life for individuals with economic and educational capital. It differs for different groups. This group will be compelled to remain a part of the urbanisation process because it is also the epicentre of urban poverty. Formal squatting, or informal human settlement, causes unrest in the economy, the environment, and the health of individuals. These events have become a part of the developing world's urban environment. Thus, the perception of Malay settlement in the city becomes that of a squatter settlement.

### 5.2 The Change of Transportation

Traditional communities have relied on rivers as a mode of water transportation due to their significance and contribution to human life. The relationship between the city and the river became a factor in the development of Malay settlements. In addition to cities built along rivers, human settlements such as villages were also constructed along rivers and coastlines prior to the arrival of the colonisers (Ibrahim, 2018). In addition to being a natural transportation route, the river has several other advantages. In addition to amassing wealth in Kelantan after their arrival, the colonists also constructed roads. To expedite land communication, roads and vehicles are utilised regardless of their socioeconomic impact on the Malay population. Nowadays, the vast majority of Malay inhabitants reside in communities with cars. They utilise the vehicle to reach their destination.

Table 3: Vehicles that you own (n = 350)

Item	Frequency	Percentage
bicycle	36	10.3
motorcycle	98	28.0
car	211	60.3
others	5	1.4
Total	350	100.0

According to Table 3, the questionnaire results found that n = 211 (60.3%) respondents own a car. However, this does not mean they are comfortable living in the settlement. These findings also show that there are still respondents who use bicycles in daily life. A total of n = 36 (10.3%) only use bicycles as their main transportation. Observations found that this group could not afford a car and would use a taxi to get around. According to an interview with one respondent (R-33), he only uses bicycles and motorcycles to get to city areas. If he wants to go further with his family, a taxi service will be used. This situation indicates that the pace of urbanisation will make a group of minorities continue to lag behind. Although the city is a centre for creating opportunities, there are still people who are left behind. However, because the motivation to live in the city is high, this group tries to adapt to the environment. This finding is supported by the opinion of McGee (1975), stating that most migrants who move from rural to urban areas have the motivation to adapt to urban life. Although lagging in terms of technology, they still try to create opportunities and lives according to circumstances. However, the motivational push factor is an element of the push factor for migrants. It is different from the situation of the residents, the majority of whom are native residents, who no longer see themselves using motivational factors to get on with life. This condition is a factor of life pressure and the ability to move on with their lives. They are seen to have no opportunity to migrate to other places as this area is a settlement that has been located in the city.

Finally, it appears the majority of the community has a vehicle for the city. The roads built by the colonials have managed to change the Malay community's pattern of life and culture. At the same time, they are seen to have to own a vehicle to go about their daily lives. If they do not have a vehicle, they will be considered left behind in the urban life system. This situation is due to the current urbanisation rate, which is increasing rapidly. It impacts directly on the Malay settlement. Previously, observations found that the formation of settlement concentrations with settlement patterns was along riverbanks. This situation is due to its main factors being geography and rivers. This observation is supported by Saleh (2015), who says that the river is of main interest to the people living on the banks of the river to be able to meet their needs and support their lives. In addition, it is for their transportation and mobility – economic, social, cultural, and political. Finally, the settlement no longer has a bond between nature and humans due to changes in the transportation system.

### 5.3 The Impact to the Malay Settlements

Cars are an essential vehicle today. The Malay community no longer uses boats as a mode of transportation, if they did so in the past. The evolution of technology has altered and strained the lives of the community. Typically, the Malay settlement pattern does not include parking space. This circumstance is a result of the utilisation of boats that do not necessitate space in the settlement area. Typically, boats are moored on a nearby river. Now, they face difficulties due to densely populated areas. Due to the limited space, this community is unable to provide sufficient parking. Eventually, the area became congested as the number of cars increased. Consequently, it is determined that this settlement has two effects. The first is that the high-income group has a more comfortable, urbanisation-adapted settlement. The second issue is that the poor reside in slums that lack adequate facilities and a comfortable infrastructure.

Table 4: Vehicle on the settlement

Item	Total number of cars in the house (n = 350)		Total number of motorcycles in the house (n = 350)	
	Frequency	Percentage	Frequency	Percentage
1	216	61.7	208	59.4
2	62	17.7	77	22.0
3	26	7.4	12	3.4
4	2	.6	5	1.4
No	44	12.6	48	13.7
Total	350	100.0	350	100.0

According to the results of the survey, Table 4 reveals that n = 216 respondents (61.7% of the total) had 1 car per settlement. Among the n = 22 respondents, 12.6% indicated they do not own a vehicle. This demonstrates that the Malay community here relies on automobiles for daily life. Observations revealed that the limited parking space limited the number of cars (Figure 2). This conclusion is supported by Table 4, which reveals that only n = 2 respondents (0.6% of the population) have four cars in the community. As a result of the dense population, parking is seen as a significant issue. This factor is also viewed as limiting the number of cars each family can own. However, other factors, such as family economic factors, must also be taken into account. Even though the majority of the population belongs to the B40 demographic, they still require a car on a daily basis





Figure 2: Limited parking in settlement areas

This finding is supported by Table 5, which shows that  $n = 140$  respondents (40%) parked their cars outside of their settlement compound. Observations found this situation is dangerous for the traffic system due to most cars being parked on the side of the road. The problem of dense settlement areas makes parking spaces unavailable to homeowners. While  $n = 70$  (20.9%) of respondents have a car porch, observations also found that most of the car porches were parked under the houses, as most of the settlements here were built with the silt on the ground. So, the house's ground floor is used for various functions, including parking and as a store.

Table 5: Vehicle storage ( $n = 350$ )

Item	Frequency	Percentage
Car porch	73	20.9
Under the house	137	39.1
Outside the house compound	140	40.0
Total	350	100.0

Roads and railways were constructed during colonial rule in the 1920s to exploit the economic wealth. The road will link rural and urban areas to improve land traffic flow. Then, settlement development began to concentrate along roads. This observation is supported by the findings of Kiroh and De Silva's study (2018). This circumstance also spurred the development of cities along roadways. Colonial urban planning began to cause difficulties for the Malay settlement. Rivers no longer play a significant role in the location of the city. This incident also occurred after independence. During the NEP, private developers implemented a new urbanisation programme that reoriented the river to face the rear of the house. The front porch is no longer a characteristic of Malay settlements. Almost all newly constructed towns are situated away from the river. After the Industrial Revolution, the river ceased to be the primary mode of transportation, leading to this situation.

Through observation, it is found that roads are now the main access in the study area. It is the result of the colonial planning of Kota Bharu. This finding is supported by Idrus et al. (2011), stating that roads are connected to all major cities even though, after independence, the cities continued to proliferate for economic and development purposes. Therefore, observations found that the role of rivers as communication waterways is declining. The connection between the rivers in the community is slowly disappearing. These findings align with previous studies (Hartanto & Ruly, 2020; Wicaksono, 2018) that posit rivers as no longer a critical element for community development. Observations also found that the settlement is now being built and renovated to no longer have the porch of the settlement facing the river. The settlement pattern has changed and is not as it was at the beginning of the settlement's existence. According to Wahid et al. (2021) and Abdullah et al. (2022), the houses were built in line with the porch overlooking the river. Now all those identities have begun to disappear. Figure 3 shows the condition of the unconnected porch and river in the Malay settlement.



Figure 3: The river is no longer be used as a front porch in Malay settlements

## 6.0 Discussion

The Industrial Revolution has impacted transportation eras such as trains, cars, and aeroplanes (Mohajan, 2019 & Peterson, 2008). These changes have created a variety of effects on human settlement. Especially in terms of the history of human settlement and population growth, it has even led to the region's expansion (Doxiadis, 1974). In addition, some of these developments have eliminated the function of the water transport system for the Malays. The transportation system's loss also impacts the Malay expertise in producing boats, economic opportunity, and, more importantly, the place and character of the Malay settlement ecosystem. Life on the river is used as a water source and a source of food, transportation, communication, and cultural formation of the Malay settlement. Life on the river is also the basis for a better experience compared to other areas (Mumford, 1961; Choomgrant & Sukharomana, 2017). With these changes, the chances of improving the lives of Malay people in the city recede, and there is not much effort to restore the function of the river to provide opportunities for the Malay advancement of the Malay in the city. Besides, due to the current trends of urbanisation, distance is one of the factors that causes changes in human thought patterns. The effects of urbanisation can be seen physically and affect the mindset of the people. In current developments, the people here have had the experience of living in an urban system. Over time, they no longer adhere to the culture inherited from generations. The construction of roads by the colonialists is a factor that is able to separate the ideology of traditional thought. Although the distance to the city is close, it has encouraged people to use their vehicles as a means of transportation. The car has become a necessity for everyone. This development will have a significant impact on their settlement. This situation is due to the fact that the infrastructure system is still at a low level in urban areas. Urban areas cannot provide proper facilities for settlements as they do not care about people's comfort. Malay settlements will become like squatter settlements because the government is not able to develop better infrastructure in the future.

## 7.0 Conclusion

In conclusion, the relationship between the river and the Malay settlements has direct and substantial effects on the Malay settlement patterns. No longer concerned with the relationship between the river and the river, Malay settlement is no longer a porch overlooking the river. Due to the existence of roads, this change has occurred. In the meantime, the Malay community was required to modify their settlement to include at least one parking area. These alterations have an effect on the increasingly dense pattern of settlement. Each day, the growing population is now accompanied by an increase in the number of vehicles on the road. In the meantime, infrastructure is in poor condition.

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## References

- Abdullah, A., Wahid, J., Abdulkarem Al-Ansi, N., & Mohd Ariffin, E. N. E. (2022). The Malay Settlement: A vanishing world? *Environment-Behaviour Proceedings Journal*, 7(20), 87-92. <https://doi.org/10.21834/ebpj.v7i20.2967>
- Abdullah, A., Wahid, J., Khalil, K. F., & Boudiaf, B. (2022). Towards the Future of the Malay Community in Kelantan. *Environment-Behaviour Proceedings Journal*, 7(19), 45-52. <https://doi.org/10.21834/ebpj.v7i19.3203>
- Abdullah, A., Wahid, J., Titisari, E. Y., & Engku Mohd Ariffin, E. N. (2022). The Impact of Urbanisation and the Changing Environment of the Malay Settlement. *Environment-Behaviour Proceedings Journal*, 7(21). Retrieved from <https://ebpj.e-ph.co.uk/index.php/EBProceedings/article/view/3691>
- Abdullah, A., Wahid, J. (2022). Returning to Nothing: The Lost of Malay Settlement in Pasir Mas, Kelantan. *OCAL WISDOM*, 14 (1), 48 – 28.
- Abdul Aziz, Z., & Syed, I. D. (2010). *The Islamic Malay Traditional Town, Learning Through the Attributes: Emphasis on Johor Bahru, Malaysia*. Johor Bahru: Universiti Teknologi Malaysia.
- Andersen, L., E. (2002): Rural-urban Migration in Bolivia: Advantages and Disadvantages, Documento de Trabajo, No. 05/02, Universidad Católica Boliviana, Instituto de Investigaciones Socio-Económicas (IISEC), La Paz.
- Choomgrant, K., & Sukharomana, R. (2017). A Vibrant Life by the Chao Phraya River, Northern Bangkok Thailand: The Heritage Tourism Value of Baan Lao Community. *Advances in Economics, Business and Management Research (AEBMR)*, Volume 26. International Conference on Economics, Finance and Statistics (ICEFS 2017).
- Dowall D.E. & Treffeisen, P. A. (1991) "Spatial transformation in cities of the developing world. Multinucleation and land-capital substitution in Bogotá, Colombia," *Reg. Sci. Urban Econ.*, vol. 21, no. 2, pp. 201–224.
- Doxiadis, C.A., (1974). *One Room for Every Human*. Paper presented at the Third International Symposium on Lower-Cost Settlement Problems. Montreal, Canada.
- Fang, W. & Knox, P.L. (2015). "Spatial transformation of metropolitan cities," *Environ. Plan. A*, vol. 47, no. 1, pp. 50–68.
- Hartanto, T., & Rully. (2020). Hilangnya Sinergitas Masyarakat Dengan Sungai Dalam Tata Ruang Permukiman Bantaran Sumber di Surakarta. *Jurnal Teknik Sipil Dan Arsitektur Vol.25 No. 1 Juli 2020 ISSN: 2598-2257(2301-668X Print)*.
- Ibrahim, A., Z., et.al., (2018). The Level of Livelihood Assets Ownership Among Vulnerability Group in East Coast of Malaysia. *European Journal of Sustainable Development*. 7, 3, 157-161. ISSN: 2239-5938. Doi: 10.14207/ejsd.2018.v7n3p157.
- Idrus, S. et al. (2011). Spatial Transformations and Housing Livability in Seremban, Malaysia. *Akademika* 81(3) 2011. Pp. 83-93.
- Karimi, K. (2000). "Urban conservation and spatial transformation: preserving the fragments or maintaining the 'spatial spirit,'" *Urban Des. Int.*, vol. 5, no. 3–4, pp. 221–231.
- Kiroh, F. & De Silva, M. (2018). Program Pembinaan Jalanraya Humphreys, 1928-1936. *Jurnal Borneo Arkhologia (Heritage, Archaeology and History)*. Vol. 3(2), Desember, 2018. e-ISSN: 2600-8726. UMS Press. Malaysia. Pp. 1-12.
- Lagakos, D. (2020). Urban-Rural Gaps in the Developing World: Does Internal Migration Offer Opportunities? *Journal of Economic Perspectives—Volume 34, Number 3—Summer 2020*. Pages 174–192. <https://doi.org/10.1257/jep.34.3.174>.
- McGee, T.G., (1975). *The Urbanization Process in the Third World: Explorations in Search of a Theory*. G. Bell and Sons LTD. York House, Portugal Street London.
- Mohajan, H., K. (2019). The First Industrial Revolution: Creation of a New Global Human Era. *Journal of Social Sciences and Humanities*, Vol. 5, No. 4. Pp. 377-387.
- Mumford, L., (1961). *The City in History: Its Origins, Its Transformation and Its Prospects*. London; Secker and Warburg.
- Noha, N. (2014). "Planning for urban heritage places: remediating conservation, tourism and sustainable development," *J. Plan. Lit.*, vol. 60, no. 4, pp. 467–479.
- Peterson, M., J. (2008). "Roots of Interconnection: Communications, Transportation and Phases of the Industrial Revolution." *International Dimensions of Ethics Education in Science and Engineering*. [www.umass.edu/sts/ethics](http://www.umass.edu/sts/ethics). 2008 IDEESE Project.
- Schultz, T., P. (1971). Rural-Urban Migration in Colombia. *The Review of Economics and Statistics*. Vol. 53, No. 2 (May, 1971). The MIT Press. Pp. 157-163. <https://doi.org/10.2307/1925711>
- Thorns, D.C. (2002). *The transformation of cities*. New York.
- Van, R.T. (2020). Story of a City: History's Myriad Geographies. *Reviews in American History* 48(4). Pp. 495-506. doi:10.1353/rah.2020.0073.
- Wahid, J. (2014). *Urbanisasi dan Perumahan di Malaysia*. (Siri Perlantikan Professor 2011/ bil.5). Penerbit Universiti Sains Malaysia. Malaysia.
- Wicaksono, B. (2018). Perubahan Budaya Bermukim Masyarakat Riparian Sungai Musi Palembang, Tinjauan Proses dan Produk. *Jurnal Tekno Global Volume 7 No 2 Desember 20*. ISSN Online: 2502-2024.
- Wahid, J. (2021). *The Demise of Coastal Architecture*. Webinar Series in Fakultas Teknik & Desain ITB Ahmad Dahlan, Jakarta.