

HISTORICAL HERITAGE CITY'S RIVERSCAPE REHABILITATION IN MALAYSIA: A CONCEPTUAL FRAMEWORK AND EXPECTED OUTCOMES

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Abstract— Rapid development transformation is the main cause of declining urban landscape areas, resources, and environment quality. Rush development causes of tough pressures on cities and also put serious damage on the urban area, resources, environment quality, and urban aesthetics. This fragmentation caused the cities lose their urban qualities, characteristics and meanings. The urban landscape landmarks, especially riverscapes, are mostly facing the hazardous pressure. People perception and attachment to riverscape, and their less pro-environmental behaviors made this pressure more critical and crucial. This subject has become one of the challengeable issues in historical heritage city rehabilitation in Malaysia. This is reflected in the crucial role of Malaysia government and local authorities strategic and policy makings with respect to housing, spatial planning and local environmental policy. In addition, the urban design studies mostly is focused on the properties of the physical elements but few of them focus on understanding the meaning, value, characteristics and psychological sense to riverscapes as vital urban landscape landmarks. According to all above-mentioned issues and problems on poor associated between riverscape attachment and pro-environmental preservation behaviors, and also, the importance of riverscape preservation and conservation in Malaysia historical heritage cities rehabilitation, this research is motivated to address the need of developing the 'heritage historical city riverscape preservation and rehabilitation conceptual framework'. The conceptual framework provides a mind-map solution of riverscape preservation for Malaysia government, involved stakeholders, and public people. Also, the research developed the theoretical framework according to the developed conceptual framework. The theoretical framework presents the material aspect of the theoretical world of sustainability, and advocates keeping the natural capital constant for the benefit of future generations. The research asserts the implementation of the developed conceptual framework would have positive effects, included, social benefits, economical growth and environmental quality on riverscape preservation in historical heritage cities in Malaysia. These findings would be useful for Architects, Landscape architects, urban planner, urban designer, and decision makers who are practicing heritage city preservation and rehabilitation. As future study the conceptual model would be proposed base on developed conceptual framework findings.

Index Terms — Historical city, People perception, Pro-environmental behavior, Urban landmark, Landmark attachment, Riverscape Preservation, Riverscape Rehabilitation

I. INTRODUCTION

Since the-industrial age, most of the cities around the world are facing some challenges due to transformations. Majority of researchers believed that this phenomenon is the main cause of declining urban landscape areas. In fact, development within short time is making tough pressures on

cities and also put serious damage on the urban areas, resources, and environment quality. During the process of development, most of the cities have lost their urban qualities, characteristics and meanings. These are what the people perception and attachment to their environment has, and is vanishing very fast due to development [4].

Urban landscape as one of the significant elements in urban development and rehabilitation provides aesthetic, horticultural, design and environmental sustainability that makes more meaningful contributions with cultural aspects [16, 122], and connection between people and the urban visual qualities [85]. The concept of urban landscape design and environmental psychology has direct relationship with how people understand and sense the nature, how they preserve environment and green area, and how nature affects them [97,65, 77]. Indeed, urban landscape can be as an important place to explore interesting feel with nature in urban society [100,115] where develops public psychological health as well [71, 74]. Hence, urban landscape mostly becomes such favorite and vital place and has exclusive, special and strong meanings for most of the people [23].

However, the poor connection between urban regeneration, economic globalization, standardized urban development, and also, lack of proper association with urban ecosystem, local history, culture and people expectation caused of losing urban landscape areas' identity and place meaning [128, 66]. In turn, the relationship between urban landscape development and its preservation comes to as a controversial issue, especially, in historical and heritage cities rehabilitation.

Hereby presents an overview on literature and theories relevant to riverscape as an urban landscape landmark, people attachment, and bonding to the riverscape, and also, people's river preservation behavior. This provides the clear picture of past and current importance of riverscape attachment in heritage cities rehabilitation, especially, in Malaysia. Consequently, the conceptual framework of riverscape preservation in heritage city rehabilitation in Malaysia is developed. Accordingly, the theoretical framework, and the expected outcome of the conceptual framework implementation is described.

II. URBAN NATURAL LANDSCAPE AS URBAN LANDMARK

The urban natural elements are recognized as the landmarks since ancient era. The urban natural landscape can be considered as urban landmark if it is gradually modified to provide magnificent survival and deep associations with

culture, religion and economic [66, 1], and historical background. Constructing memorable urban landscape and the use of landmarks to urban rehabilitation with appropriate and conceptual designs is the main role of landmarks [95, 47]. In fact, the urban landmarks can play a prominent role in providing human communities more visually memorable image of places where they inhabit [20, 95]. Urban landmarks provides physically or spiritually uniqueness in terms of visibility, impressive qualities and characteristics where has a contrast with surroundings Lynch [86]. The urban landmarks have significant characteristics; singularity, spatial prominence, user’s familiarity, and cultural and historic meaning [86], and prototypicality [117], catalyst and navigation tools, legible and imageable city maker, and sense of place attachment creator [76].

III. THE ASSOCIATION BETWEEN URBAN LANDSCAPE LANDMARK AND SENSE OF ATTACHMENT

People usually develop a physical and emotional relationships with places where have interaction so-called place attachment. Attachment to a place has been described in different disciplines, included, psychology, geography, and urban design and planning, however, it has not been appropriately explored in urban landmark studies [116]. Landmarks are one of the physical elements of the city that can influence the sense of place in users [86], and sense of attachment. The characteristics and quality of physical landmarks will affect the individual’s sense of place [52, 97], and also, their perception, attachment, bonding, and satisfaction to the place. Urban landmark attachment makes people to feel calm, comfortable and safe [6,73], and inspires its distinctiveness and identity [125].

On place attachment, there are two main concepts, called, social bonding and social satisfaction. In fact, these concepts can significantly aid in revitalizing and rehabilitating the urban landscape landmark. The following briefs on these concepts;

1) Place Social Bonding

One of the significant components of the place attachment is ‘place social bonding’ [73]. A particular place can be get value and special quality and characteristics since it can increase individual’s and social group relationships and bonding [111,112, 31]. Ramkissoon [107] express urban landscape areas can lead to high levels of attachment and social bandings.

II) Place Satisfaction

Place satisfaction is defined as multi-dimensional characteristics and quality of an exclusive place or element, which fulfills individual’s needs for the physical properties of a place, and emotional feelings [119]. It has been suggested that place attachment, conceptualized dependent place, place identity, and place effects may considerably cause of individuals’ satisfaction [138, 139, 140, 141]. In specific, majority of people who are satisfied with a place, have desire to pro-environmental intentions and behaviors [142].

IV. THE ASSOCIATION BETWEEN URBAN LANDSCAPE LANDMARK AND SOCIAL PERCEPTION AND CULTURE

The “perception consists of experience, memory, and reaction” [9].The perception is the psychological process that individuals can make sense of environment [11]. Any individual interprets the environment based on his/her exclusive experiences and education by different perceptions [95]. On the other hand, the common point of view developed in a society or group is culture [108]. Every society has its own sub-culture involved in main culture that contributes different resources according to values and

V. RIVERSCAPE AS AN URBAN LANDSCAPE LANDMARK

According to history of civilization, the most of cities have been developed nearby rivers [144], such as cities in Malaysia, named, Kuala Lumpur, Terengganu, Malacca, Kuantan, Kota Bharu, and Kuching [6]. The river aids in inspiring social identify, cultures and traditional heritage, promoting trade and transportation, and source of energy production [17]. Previous researches have appreciated diverse advantages of river in a city. Table 1 overviews diverse advantages of river in urban design and planning studies. Regarding Table 1, river in a city can fulfill aesthetic, place meaning, place legibility, prospects, excitement, recreation, attractiveness, health, psycho physiological benefits, people willingness, emotional feeling, relaxing, happy mood, leisure time. Among these advantages, the ‘recreation’ dimension has been mostly considered in previous studies, while; emotional dimension has received limit attentions.

Riverscape Benefit Dimensions	Burnell,1999	Lifton,1977	Kaplan,1977	Ulrich et al,1986	Leomin,1987	Williams,2010	Regan,2005	Junker,2007	Gav,2003	Pfuger,2010	Dobbie,2010	Coffet,2013	Muhler,2008	Zhou,2013	Lay,2013	Nikotova,2006	Aberg,2013	Zhang,2010	He,2011	Mcnamiffe,2013
Aesthetic	√	√																		
Place meaning	√	√																		
Make place readable	√	√																		
Excitement	√	√	√																	
Recreation	√	√	√				√	√	√	√	√	√	√	√	√	√	√	√	√	√
Attractiveness			√	√					√	√	√	√	√	√	√	√	√	√	√	√
Health												√	√							
Psychophysiological benefits					√															
People willingness to pay						√														
Emotional benefit																√				
Landscape design							√						√	√				√	√	√
Relaxing							√					√						√	√	√
Happy mood	√						√													
Leisure time							√													√

TABLE 1. RIVERSCAPES REHABILITATION ASPECTS

VI. HISTORICAL HERITAGE CITIES’ RIVERSCAPE REHABILITATION IN THE WORLD

This section presents two most prestigious examples of historical heritage cities’ riverscape rehabilitation in the world.

A. Paris Seine River and Champs-Élysées city corridor

The city of Paris was settled nearby the Seine river, and was spread up along the river axis since 16th century. At that time, the main corridor of the city ‘Champs-Élysées’ axis was started to grow along the river. Then, the main cores (such as La Défense) of the city were constructed, including, palace complex, Tuileries Garden, and nearby rural gardens[94].Since 1860 A.D., the Seine river was considered as the main corridor of Paris by developing main urban elements along the Champs-Élysées axis. After while, the Paris city has developed the huge boulevards to connect the important city cores, squares, and buildings which are along the river (Figure 1).



Fig. 1. Paris urban growth beside Seine river and Eiffel, Period 508 to 1750 AD (Source: http://en.wikipedia.org/wiki/History_of_Paris)

Urban designers and planners, proposed a terminology 'riverscape' which means to use and describe broad-scale physical, biological, and aesthetic features of river [5, 67, 122, 133]. Reviewing riverscape studies shows that there different dimensions the urban design and planning researchers have focused in (Table 2). According to Table 2, the most challengeable dimension in riverscape studies is people perception.

The historical trend of the Paris city shows that the growth and expansion of the city was based in the Siene river, then, the distinguished urban elements have been developed along the river, such as, Tuileries Palace, Bastille Castle, Louvre museum, Royal palace, Paris Opera, Eiffel Tower, Triumphal arch, Boadu Bologna, and La Défense collection where are already exist in the city. The Seine River is still affect in the urban forms and texture of the next developments of Paris, which supports all parallel, diagonal, and vertical developments in Paris[30].

B. Yamuna River and Taj Mahal historical corridor

Since 16th century, the king garden and palaces have being settled beside Yamuna River. The Taj Mahal palace has been located just beside of the Yamuna river to get access to water, and use the natural breeze and new landscape of the river. The Taj Mahal traditional garden (i.e. Charbagh) has been developed towards to Yamuna river. The monuments and tombs have been also built along the riverside strip. The Taj Mahal historical site is being preserved by government by conducting the projects enhancing the view corridors and access to different places, traced gardens, parks, resort fields, open spaces, and green spaces along the Yamuna riversides. Specially, the walking corridors development along the Yamuna river made physical access to city center where residents and tourism can walk and experience the riverside historical sites. People can walk along the river using shaded resort, Taj Mahal historical site, and its ecological axis [32]. This development provided the residents and tourists the access to Yamuna riverside, which created a greenbelt around Taj Mahal [32].

In 1994, Taj international park project was conducted on eastern coast of Yamuna river started from Taj Mahal to Mahtab Garden and some villages around the eastern coats. The connection between these two gardens have formed a new garden called Charbagh located in two sides of the river[96]. Since 2003, the central state has conducted the lands recovery project of historical Taj Mahal Corridor at Yamuna riverside between Taj Mahal and **AgraFort** for recreational and commercial complex developemnt (Figure 2).

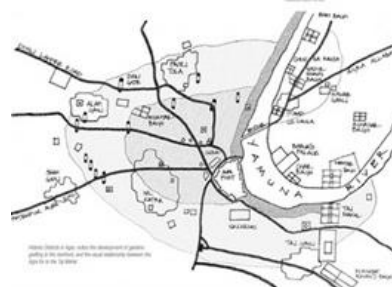


Fig. 2. Taj Mahal historical site beside Yamuna river and Agra urban growth (Source: Harkness and Sinha, 2004)

VII. MALAYSIA POLICIES ON HISTORICAL HERITAGE CITIES' RIVERSCAPE REHABILITATION

According to literatures, the higher levels of place attachment are associated with engaging in pro-environmental and preservation behaviors [125, 131, 26, 43]. Kelly and Hosking [68] express that place attachment is positively linked to environmental conservation behaviors.

Consequences of development, demolitions, and destructions have affected Malaysia cities' familiarity, legibility and historical landmark since early 1980's [128].

The National Heritage Department has recently established in 2006, and Heritage Act was enforced by 2005 [36]. In 2008, Penang and Melaka have been appointed as UNESCO World Heritage Site that put Malaysia in the heritage tourism map. conservation is still infancy in Malaysia [145].

Hence, National Heritage Act 2005 was established to "support the conservation and preservation of national heritages including the natural heritage and rivers. The 9th Malaysia Plan"(2006-2010, p.10) states the thrust '...to improve the standard and sustainability of quality life' to the aspiration of the integration between waterfront and urban river, for both purposes, beautification and flood mitigation. Under 9th Malaysia Plan, the National Urbanization Policy (2006) has been made with the aim of achieving more sustainable urban development.

The riverscapes are one of the most magnificent elements of urban landscapes the natural resources and where need immediate preservation and conservation actions [50]. Since 18th century, swift urbanization, rash development, industrialization, and intensive farming activities caused gigantic changes in river quality and functions in terms of economy, national development and the environment widely.

VIII. PROBLEM STATEMENT

Harsh rapid urban development and redevelopment has forced serious damages on urban landscapes [60]. The poor connection between rush development, urban regeneration, economic globalization, standardized urban environment, and also lack of proper association between urban ecosystem, local history, culture and people expectation caused of loosing urban identity and meaning of urban landscapes [129].

Consistent with Jim [60], half of the world's population exists in cities and urban landscape plays a crucial role in environmental recovery and public health issues. In developing cities, urban landscape usually tolerate high stress during their life cycle, and eventually giving up because of several physical and physiological tensions [44, 60]. Furthermore urban landscape areas propose special ecological, naturalness, amenity, social and cultural values, and consequently, exist as alive landmark and give exclusive sense of attachment to place and history [101, 72, 60].

TABLE 2. Riverscape Research Dimensions in Urban Design and Planning Studies

Citations	Restoration Scenarios	Riverine Ecological Integrity	Stream ecology	River management Aesthetic Performance	Perception	Water quality	Environmental sustainability	Soil erosion	Urbanization	Landscape pattern Landscape rehabilitation	Environmental management	Landscape quality	Social benefit River Recreation/ Well-being/Healthiness	Recreation Socio-economic value	Water treatment	Socio-Cultural perception Emotional Influence	sense/Attractiveness	Preference Anthropogenic riverfront development	Environmental Education Marine Environmental quality	Knowledge Perceived naturalness	Wetland	Cognitive structure	Meaning/Value	Personal and social Value Importance/Satisfaction	Natural/Cultural heritage	
Susanne Muhar(2008)	√	√	√							√																
Ting Zhou(2013)	√		√	√						√																
Berit Junker(2007)	√		√		√	√																				
Ting Zhou(2012)	√			√		√	√			√																
Zhaoling Zhang(2010)			√	√			√	√		√																
Xiaohui He(2011)			√				√		√	√																
Daniele La Rosa(2013)										√	√															
Tibor Er}os(2010)		√								√		√														
Yves-François Le Lay(2013)	√				√						√															
HERVE´ PIE´GAY(2005)	√	√	√		√	√																				
Jarmila Mikotová(2006)	√	√	√									√														
E. Ulrika Åberg(2013)			√		√	√							√	√	√	√										
Yvonne Pflüger(2010)				√						√				√												
HE Sheng-Bing(2007)															√											
Anne Chin(2006)				√					√																	
Yves-François Le Lay(2007)				√	√											√	√	√								
A. Faggi(2011)																√										
M.Z. Azrina(2005)						√													√							
Azlina Binti Md(2010)									√										√							
Hafizan Juahir(2010)						√					√															
CHAN NGAI WENG(2005)				√	√	√				√						√			√							
SarahMcAuliffe(2013)										√				√				√	√							
Ruth Panelli(2005)					√											√				√						
Yves-François Le Lay(2013)										√									√							
Berit Junker(2007)	√	√		√	√	√					√						√				√					
Meredith Dobbie(2012)	√		√	√	√								√							√		√	√	√		
Marylise Cottet(2013)	√	√	√	√	√					√			√	√		√					√		√			
Silva Larson(2013)			√																						107	√
Jérôme Gandin(2012)		√			√	√					√			√					√							√

In terms of environmental conservation, some researchers have indicated the relationship between place attachment and people pro-environmental and preserving behaviors [131,26, 43, 109]. “Pro-environmental” behavior is described as an act by an individual or group of people that promote utilize urban natural resources sustainably [146]. In one hand, place attachment as a possible functional and proper concept for developing pro-environmental behaviors among people on the other hand findings based on relationships between the two constructs has conflict [111,112]. Facts shows that sustainability activities in national urban green area and other natural areas such as parks may improved by increasing place attachment and by encouraging local people and visitors to be environmentally responsible [8, 29]. Although different scopes of place attachment and pro-environmental behaviors connection have been investigated [29], a few studies have evaluated landmark attachment in correlation to pro-environmental behaviors [107], and rehabilitation activities.

The Malaysia government has reported (9th Malaysian Plans) rapid urban development has caused urban physical changes that led to less meaningful historical and heritage places, disassociations with the local culture and people perception and life style [54], and fragmentation on place attachment and landmarks [53]. These rush transformations have led the urban landscape areas to be disorganized, lacking in visual and physical coherence [28]. Consequently, it has been observed that the new condition is reducing urban identity due to lack of attachment to place [126,127], significantly, to heritage and historical places.

IX. AIM OF RESEARCH

According to all above-mentioned issues and problems on poor associated between riverscape attachment and pro-environmental preservation behaviors, and also, the importance of riverscape preservation and conservation in Malaysia historical heritage cities rehabilitation, this research is motivated to address the need of developing the ‘heritage historical city riverscape preservation and rehabilitation conceptual framework’. Extending the aspects explored by previous researchers, the current research investigated the influence of the characteristics and quality of riverscape [as an urban landscape landmark] on people perception in heritage historical cities in Malaysia.

The aim of developing this conceptual framework is to provide a mind-map solution of riverscape preservation for Malaysia government, involved stakeholders, and public people. The conceptual framework will aid Malaysia government and local authorities in promoting sustainable heritage and historical city development.

X. RESEARCH DESIGN

To achieve the aim of study, the research was designed into two phases. Phase one was to develop the ‘heritage historical city riverscape preservation and rehabilitation conceptual framework’. Accordingly, the theoretical framework has been created in support of the conceptual framework. Second phase was to outline the future outcomes of the developed conceptual framework in terms of social, economic, and environmental aspects. The following presents each phase, respectively.

A. Conceptual Framework Development

To identify the new and profound characteristics, quality and value of landmark in terms of the link between human perception, environment protection and landmark attachment in a natural riverscape in landscape environment. Therefore, it is necessary to carefully formulate the information provided in the process so that a proper framework is developed to explain how people respond in such situation and promoting landmark qualities.

The current research has applied the ‘Middle-out’ approach to develop the conceptual framework of historical city’s riverscape rehabilitation. Indeed, the middle-out approach deals with “somewhat beyond the traditional wisdom which consider social and technological innovations as either being induced from the top-down or evolving from the bottom-up” [58]. It indicates “agents of change, as well as agency and capacity roles, which are located in the middle, in between the top and the bottom” [58]. To clarification, “ideas, practices and behavioral norms coming from the middle could be better tailored to downstream needs, better communicated upstream and more acceptable by both up and down streams” [58]. Hence, the developed conceptual framework is such an urban ecosystem combines goals, aim and subjective approaches, individual perception, social groups, and institutions are attributed a crucial roles.

The wise activities in order to boost quality of human lifestyle and on the other hand reducing impact of human activities on environment at the same time is called sustainability [10, 40]. Since it has been found out that designing cities and environmental management play key role in order to enhance environmental sustainability, international societies, try to create a new plan for managing and redesigning social environment and this issue has become such a global issue on sustainability [37].

Regarding to sustainable environment, the concept has established as known as ‘natural capital stock’ which is about all natural resources. In fact individuals are able to modify resources and they can improve their production base on natural resources. Indeed this concept is all about using natural resources in the way that protecting and preserving them for future generation would be the magnificent goal in order to have sustainable environment, social benefit and social well being [103]. Moreover, the related concept as known as ‘equity’ contains variety of factors in terms of environmental sustainability. The fact is that any impact on environment in the world is exactly related to the resources, acts, social justice and quality of people’s lifestyle, and their preferences [2, 79].

Furthermore another concept has presented as known as eco-form that would represent human need to manage and design environment such as building, urban area and cities. The main goal of sustainable environment’ studies basically are concentrated on designing building and environment in order to meet main aim which is preserving and conserving natural area to have sustainable urban environment. Indeed the principal mission and vision amongst governments, decision makers, policy makers, designers and planners is common issue as known as ‘energy efficiency’.

A.1. Heritage Conservation and Regeneration of Historic Areas in Malaysia

The care and conservation of urban historic element in Malaysia are under the jurisdiction of various agencies at different levels; Government agencies, both Federal and State. Besides these agencies, there are a few other public organizations established by groups of architects, planners, journalists, artists and historians, such as the Malaysian Architects Association (PAM) and Malaysian Institute of Planners, to support and maintain the national heritage [147]. There are in addition, support groups such as Penang Heritage Trust and the Heritage of Malaysia Trust, which are the two main pressure groups which have been campaigning on the issue of heritage conservation.

So far, the pressure groups have created much awareness on the importance of the heritage to the public. Newsletters, heritage awareness campaigns in schools and workshops on conservation were carried out to encourage public participation in the protection of heritage in Malaysia. Local Authorities such as Kuala Lumpur, Penang, Melaka and Taiping are the front-liners in introducing conservation-based policies to regenerate historic areas in their Special Area Plan. Kuala Lumpur Structure Plan 2020 served as reference for urban development.

In Malaysia, urban conservation is classified into three general categories, which are building conservation, area conservation and cultural conservation [91]. However, heritage cities in Malaysia are facing intensified urban problems as a result of rapid population growth, economic development, and urbanization [91]. These threats are the result of insensitive redevelopment schemes that were carried out before the introduction of the National Heritage Act 2005.

A similar study by Mohamed [91] carried out in major historic cities in Malaysia such as George Town, Kota Bharu, Melaka, Taiping and Ipoh has identified challenges facing by the heritage cities in Malaysia as:

- Design of new township development
- Depopulation of inner city Intensive and uncontrolled development pressures
- Insufficient legislations and enforcement
- Changing lifestyles and consumption patterns of city dwellers
- Expectation of new tourists
- Public awareness
- Environmental degradation.

A.2. Malaysia Early Waterfront Establishment – River Decline

One of the first organization as known as “Sanitary Board Enactment” has established in 1857 to set up the rules related to the riverine area and riverside cities such as Kuala Lumpur and consequently the most basic law regarding to the urban river was established in 1907. The main goal of this mentioned organization is focused on keeping clean water and healthiness. Moreover regarding to the river conservation acts the “Water Act, 1920” has organized related to Malaysia’s rivers. Also to prevent land fragmentation, landslides and soil erosion the “Land Conservation Act, 1960” and the “National Land Code, 1965” have been established later. Furthermore another organization as known as the “6th Malaysia Plan” has been established in order to conserve and protect natural resources and environmental area. One the other hand the “7th Malaysia

A.3. Typology of Sustainable Frameworks

The coherent and consistent form that illustrates relationship between indicators is called framework. Indeed frameworks may show integration and association between factors to be interpreted and understood easily. It can help to make clear all about concepts and measures in an appropriate way [51]. There are some main differences between variety of frameworks that would be related to the way of conceptualizing factors and measuring indicators to form conceptual framework [51, 77,78,74]. Some of the most common and important type of framework has been illustrated as follow:

1) Typ1. Capital Accounting Framework

This kind of conceptual framework is base on accounting and economics issues. In reality it was proposed before sustainable development framework. Furthermore this kind of conceptual framework would be useful for projects that we have to count environmental in order to have financial plan [51].

2) Type2. Causal Framework

To propose association between causes factors and effects factors and find out the deep relationship among them, causal framework is used. In fact in this kind of framework, some main factors would be elaborated such as processes, human activities and patterns that would affect on sustainable development [149].

3) Type3. Issue-based, goal-oriented or thematic framework

In some studies that there are different issues and factors to make up, this kind of framework is utilized. Indeed to indicate association between some factors in terms of local, national and global issues and ultimately to find out the consequences, this kind of framework is used [148]. Relationship between factors and indicators would lead to form the specific policy.

4) Type4. Systems Framework

This kind of conceptual framework is proposed link between resources, urban process, lifestyle, amount of waste and quality of life in order to have sustainable cities which is designed by Newman [150]. In fact the most magnificent goal in this kind of framework is to find the best way to improve quality of life and reduce waste.

5) Type5. Sectoral or domain framework

In some studies there is some different framework that is needed to be combined. Thus this kind of issue is not framework itself but in order to combine other conceptual framework in different areas may utilize as combined and new framework [151].

To sum up, Figure 3 illustrates the conceptual framework for developing landmark quality through place attachment and riverscape.

B. Theoretical Framework Development

A critical review of the multidisciplinary literatures on sustainable historical heritage city development shows the lack of comprehensive riverscape preservation and rehabilitation

theoretical framework. The theoretical framework was developed based on reviewed theories on river preservation, riverscape rehabilitation, urban landmark attachment, and people pro-environmental behavior. In developing the theoretical framework, the relationship and linkages between theories have been indicated based on the developed conceptual framework. The following presents the theories have formulated the riverscape preservation and rehabilitation theoretical framework (Figure 4).

1) *Landmark Theory*

The comparison between virtual perception and reality of landmark has been proposed by Sorrows and Hirtle [117] which is to find out the variation and similarities of landmark characteristics. This description has discussed most magnificent qualities and features in “Geographic Information Science” as following:

1. Describing the visual magnificence of an urban element that is elaborated as “Visual Prominence”
2. Highlighting cultural or historical meaning of an urban element that is elaborated as “Semantic Saliency”
3. Elaborating the function that an urban element proposes in environments is called “Structural Significance”

Indeed, the landmark theory expresses that above-mentioned landmarks features are based on people perception, association and their interpretation, and experience.

2) *Landmark Perception Theory*

According to visual perception theory, “landmarks are elements with significant characteristics that make them different from their environment and as consequences would be recognizable easily”. Landmark Perception Theory states landmarks can be buildings that are different from their environment or remarkable urban element such as an old clock or a place where some extraordinary event has been happened on it [95].

3) *Visual Perception Theory*

Perceiving components and urban elements would be base on relationship between image or picture, and individual preference. Indeed this interpretation could be immediately after perceiving image and properties or maybe based on secret background and legibility, which are expressed by Visual Perception Theory [6].

4) *Biophilia Theory*

Biophilia theory has defined as the “inherent tendency to focus on life and life like processes” [152]. In fact, the biophilia theory proposed dependency of an individual to the nature that is developed based on human desire for aesthetic, satisfaction, mentality, meaning and cognitive. The Biophilia theory essentially consists of some aspects depend on people preference which is about association between human and nature would be as follow:

1. In fact human has feeling affinity and tendency to the nature “inherently” and nature is the main aspect of humanity and during the history has changed to the “heritage”.

2. Moreover natural area has been had some advantages to humankind and naturalness may boost individual well-being, health and personal improvement.

5) *Pro-Environmental Theory*

The Pro-Environmental Theory indicates the behaviors and particular human beliefs are influenced by association between human and environment [121]. In fact, the pro-environmental behavior would be based on individual’s acts towards their environment that are personal norms. It would be useful about people who believe the environmental conditions human has made will have harmful effects on valued elements, and on the other hand, their action will omit their negative impacts on environment [153].

6) *Attachment Theory*

According to Bowlby [12] attachment theory has defined as emotional and specific bond that could be developed between a person and a specific person, place or thing. Furthermore, Bowlby [12] has elaborated attachment as an essential human need to feel secure. The theory of place attachment concentrates on phenomena connected with human and place bonding. Indeed, feeling safe and comfortable would be result of this theory relates to the positive bond among people or particular place [24, 114]. Furthermore, in terms of environmental psychology, Low and Altman [154] have described the place attachment theory as a psychological relationship and process like attachment of infant to the parents.

XI. THE CONCEPTUAL FRAMEWORK’S FUTURE OUTCOMES

The Historical Heritage City’s Riverscape Rehabilitation conceptual framework set the goals to; promotion of quality of life, riverscape rehabilitation, people participation in riverscape preservation, increase of people sense of attachment and bonding to riverscape, urban economic revival by promoting tourism industry in Malaysia. To achieve these goals, Table 3 presents the future design strategies and policies into three aspects; social, economic, environment.

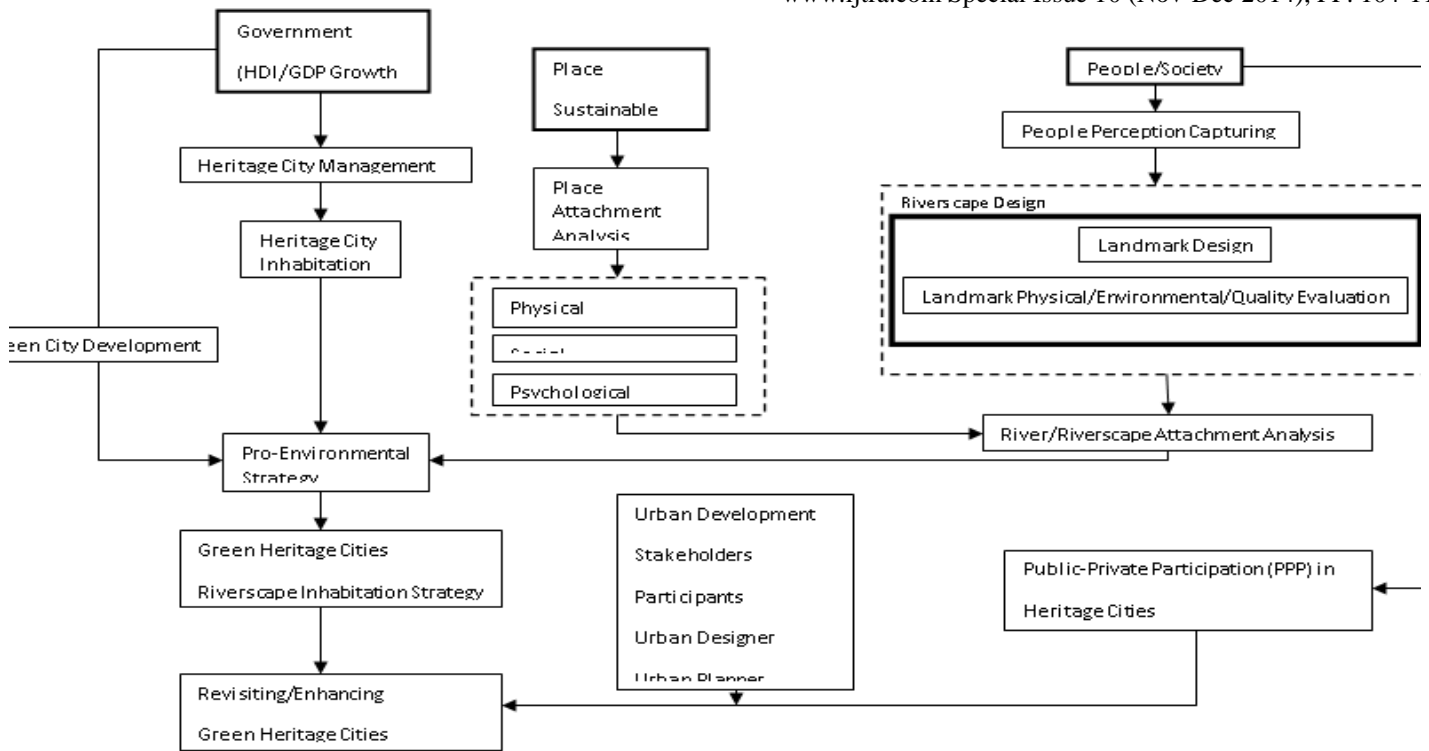


Fig. 3. Historical Heritage City's Riverscape Rehabilitation Conceptual Framework

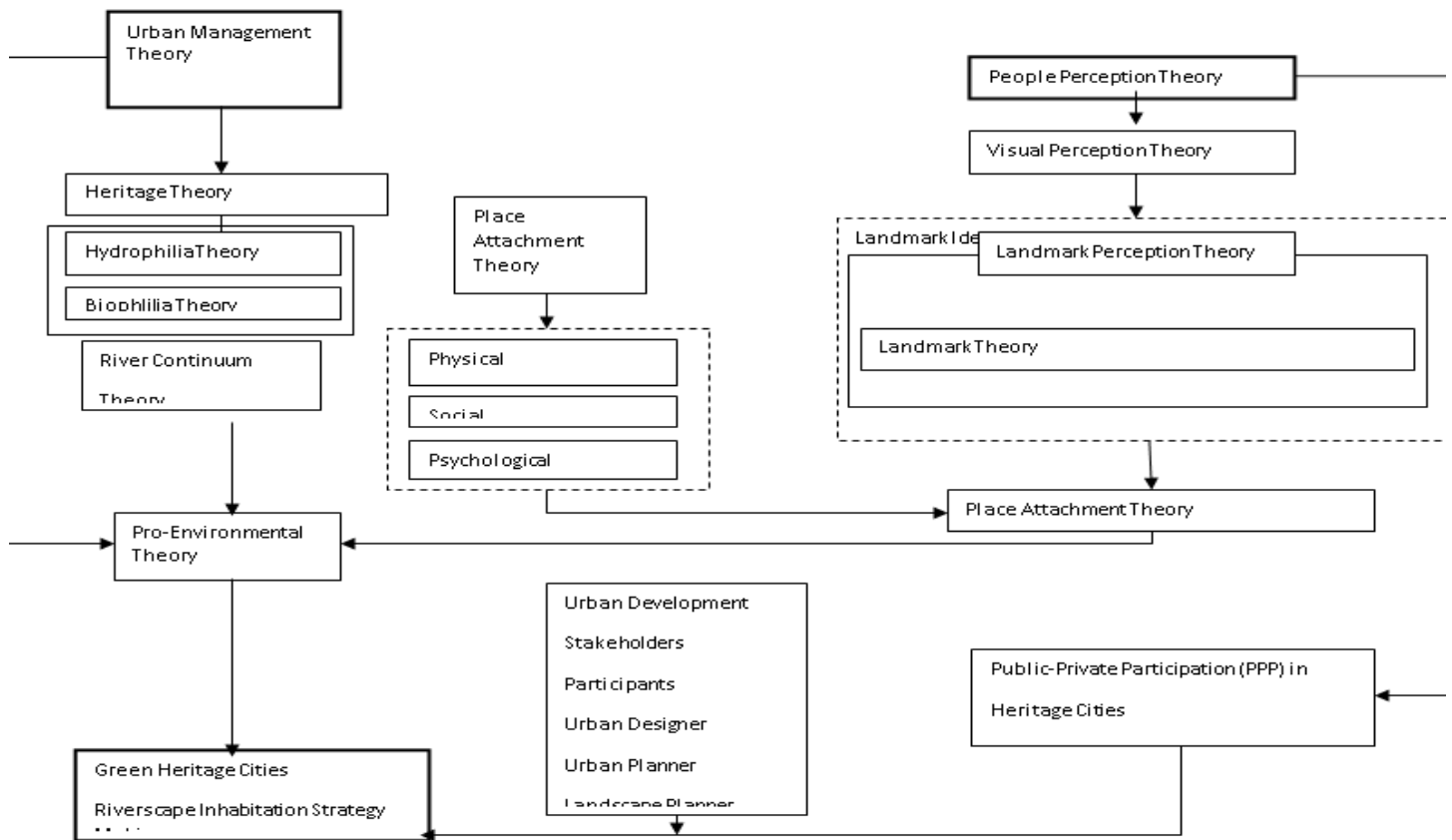


Fig. 4. Historical Heritage City's Riverscape Rehabilitation Theoretical Framework

XII. DISCUSSION

Several studies mentioned that the characteristics and quality of physical elements will affect on sense of place [52, 84, 155]. In fact the physical characteristics, qualities and attributes of an urban element will contribute to the perceived meanings by people. It means physical features and attributes of a place are the elements that would judge by individuals [97]. Furthermore he concluded that the physical elements with special characteristics and attributes may affect on people perception in terms of attachment to place or not. In another study by Stedman [119], he has discussed that physical environment and the exclusive properties have deep contribution to create and buildup the sense of place, place attachment and place satisfaction.

One of the most significant issues is that the urban heritages should be valued, understand and preserve for the next generations in good and same condition to provide and recover the sense of identity and community in urban area [85,120, 124]. Further than the documentation role of historical urban elements, the urban heritage also contains the value of traditional cultures, meaning, value, characteristics and quality that represent the public memory. The heritage in this context is often defines as monuments, buildings, urban areas, historic centers and quarters together with their natural and man-made environments (International Charter for the Conservation and Restoration of Monuments and Sites, 1987). Today most of these qualities have threatened, physically damaged or even destroyed specifically less tangible elements in urban area such as streets, people perception and activities, historical urban elements, open spaces and urban natural texture [48, 120, 124]. Furthermore less tangible or intangible features are normally excluded in the process of defining urban heritage and implementation of urban conservation. This remarkable situation has lead to impact on characteristics of historical cities and consequently failing of place identity in cities [124].

XIII. CONCLUSION

This study is developed the conceptual framework on the new and profound characteristics, quality and value of landmark in terms of the link between human perception, environment protection and landmark attachment in a natural riverscape in historical cities that would have positive effect on social, economical and environmental issues. The new and profound characteristics, quality and value of landmark in terms of the link between human perception, environment protection and landmark attachment in a natural riverscape in landscape environment has been developed in this conceptual framework. Therefore, it is necessary to carefully formulate the information provided in the process so that a proper framework is developed to explain how people respond in such situation and promoting landmark qualities. Thus this conceptual framework would have some positive effect such as social benefits, economical growth and environmental quality and preservation in heritage cities. Moreover these finding would be useful for those experts who has relevant affect on Urban heritage quality such as Architects, Landscape architects, urban planner, urban designer decision makers and etc. Thus for further study the conceptual model would be proposed base on finding regarding to environmental sustainability conceptual framework.

TABLE 3. THE SUSTAINABILITY OUTCOMES OF MALAYSIA HISTORICAL HERITAGE CITY RIVERSCAPE REHABILITATION CONCEPTUAL FRAMEWORK IMPLEMENTATION

Sustainability Aspect Outcomes		
Social	Economic	Environmental/ Physical
-Promoting Social Health	-Encouraging residents and tourists to visit	-Preserving urban natural elements
-Promoting Wellbeing and comfort	Historical sites landmarks	-Enhancing Air Quality
-Enhancing the Quality of Life	-Promoting Tourism Industry	-Preserving the Historical site by people Pro-Environmental Behaviors
-Increasing Recreation and vacation potentials	-Increasing land execution value near to Historical sites	-Restoration of Sceneries
-Increasing public living activities (walking, cycling, for travel and recreation purposes)	-Persuading people to participate in government rehabilitation projects	-Natural/Cultural Preservation
-Promoting Social Bonding	-Creating job and commercial opportunities	-Strengthening the identity and meaning
-Encouraging People to Pro-Environmental behavior	-Enhancing Vitality and livability	-Making Historical sites readable and legible
-Providing Psychophysiologic al benefits	Historical sites landmarks	- Promoting a sense of attachment and sense of place with Historical sites
-Strengthening Emotional attachment to historical sites		
-Increasing perceived beauty and aesthetics		
-Persuading people to participate in government rehabilitation and conservation projects		
-Promoting the culture and cultural backgrounds of the historical sites		

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