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The Influence of Contemporary Transport on the Heritage Landscape of Lamu Old Town

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Abstract
Lamu's Old Town's unique architecture and urban layout, traditional Swahili construction techniques, its designation and status as a World Heritage Site has huge implications on the mobility requirements of its residents and workers and visitors. This study investigated the changing motorized-mobility landscape in Lamu Old Town and its implication, on the town's planning, management and socio-cultural identity. The main purpose of the study was to examine the urban transport morphology characterising Lamu's historic urban landscape and the challenges of proliferation of motorized mobility compatibility and conformity to the existing townscape. The study adopted descriptive survey design and a mixed survey research methodologies. Data collected through the study tools was analysed using statistical tools that allowed for the measurement of variables, relationships and patterns between them. The study population comprised of 21994 residents of Lamu Old Town and individuals who undertake socioeconomic activities within the town on a day to day basis and rely on the transportation system for these activities. Using simple random sampling, a sample of 94 target respondents. Both a structured questionnaire and a key informant interview guide were used to collect data. The study established that Lamu Old town is a complex planning space especially because of the complexity of the adaptation process of its old and new functions; the town's unique architecture and urban layout; its sociocultural nature and designation/status as a World Heritage Site. These complexities have huge implications on the mobility requirements of the town's residents and workers and visitors and impacts the quality of urban life therein. The study also identified social and institutional strengths and weaknesses in Lamu Old Town's urban planning and management. Ultimately, the study made recommendations towards a sustainable urban transport and mobility framework for the old town.

Key words: *Heritage; Landscape; Urban Transport; Planning*

1.0 Introduction

UNESCO's 1972 Convention concerning the Protection of the World Cultural and Natural Heritage embodies the idea that some places are so special and important that their protection is not only the responsibility of the States in which they are located but also a duty of the international community as a whole. The pressures of urban growth pose a significant threat to historic urban landscapes and especially in optimizing their production and consumption potential, while preserving and enhancing their cultural significance (Commission, 2001). The urban environment significantly affects people's daily mobility by influencing the reach, efficiency and accessibility to various social, economic activities and services. Historical cities were built during an era where mobility was unmotorized. While increased use of motorized transport modes within urban environments has become synonymous with both physical and socioeconomic mobility, this has also brought about growth in transport-related challenges, including pollution, congestion, accidents, public transport decline, environmental degradation, climate change, energy depletion, visual intrusion, and lack of accessibility for the urban poor. Historic urban landscapes, due to their intrinsic environmental vulnerabilities have been particularly impacted by the transport consequences of urbanisation and have had to adapt, to facilitate the increased mobility of the population and visitors (Pojani & Stead , 2015).

The integration of modern transport infrastructure within these urban landscapes has not been effectively used to solve transport problems in these towns mainly because they continuously suffer from ever increasing levels of human and activity congestion characterised by overcrowded streets, traffic and parking pressures, and limited road infrastructure. While improving transport to some historical areas is supposed to enhance the area significantly, it can damage the cultural environment instead (Wheeler, 1997).

Lamu's Old Town was designated a World Heritage Site, specifically because it is home to some of the best-preserved Swahili urban landscapes and has continuously served as a settlement area and trading centre for goods between the Arabian Peninsula, Europe, Asia and East Africa for more than 700 years. Lamu Old town is also unique because it constitutes an entire urban area, as opposed to just a single building or natural feature. Lamu's designation and status as a World Heritage Site has huge implications on the socio-cultural and economic development of Kenya as it supports both national heritage and tourism sectors of the economy (UNESCO, Swahili Historic Urban Landscapes, 2013).

The Lamu Old Town Management Plan for 2013-2017 sites the invasion of the Old Town by motorized mobility modes that has not only limited pedestrian mobility, but also contributed to damage on the fragile infrastructure and architecture of the town. This apparent proliferation of motorized mobility within a conservation and heritage zone is not compatible with the urban layout and does not conform to the existing townscape which is characterized by unique but fragile architecture, meandering, and narrow streets. This phenomenon constitutes a challenge not only to the usual circulation and parking of an automobile, but also to the mobility requirements of residents, workers and visitors. Ultimately, the type, convenience, availability and interaction of different modes of mobility within this fragile urban environment not only impact the quality of urban life therein, but also the architectural structures and forms of appropriation of urban spaces. The sustainable planning and management of the town's transport and mobility needs would potentially contribute to its long-term viability not only as a cultural heritage site, but also as a functional socioeconomic environment. (Oursler, 2016) Sites attempts made to regulate motorized transport within Old Town including through the 1976 Lamu – a Study of the Swahili Town, 1991 Conservation Plan for Old Lamu Town, both the 1999 and the 2013-2017 Lamu Old Town Management Plans. Studies have, however, established that the condition of buildings, streets and the urban network in Lamu had progressively deteriorated despite these management and conservation interventions. Lamu Old Town was in 2013 placed on the list of World Heritage Sites in Danger and is currently at risk of losing its World Heritage Site designation.

2.0 Transportation in historic towns

The historic urban landscapes of meandering and narrow streets mean great difficulties for the circulation and parking of an automobile (CERTU, 1999). Before the advent of motorized mobility, urban landscapes were planned mainly for pedestrian and animal-carriage use. Increased motorized mobility has put a pressure on the social, economic, and physical environment of these otherwise vulnerable urban environments especially because the transportation infrastructure of historic urban landscapes are not appropriate to current motorized traffic loads. The insufficiency of historic street network in the traditional urban fabric has become a significant problem that should be solved without demolishing the physical and social environment.

The integration of modern transport infrastructure within historic urban landscapes has not been effectively used to solve transport problems in these towns mainly because they continuously suffer from ever increasing levels of human and activity congestion characterised by overcrowded streets, traffic and parking pressures, and limited road infrastructure (Wheeler, 1997). (Campos, 2000) avers that many urban historical landscapes are not prepared to support their respective current volumes of motorized traffic because the majority of them were built during an era where mobility was on foot or by animal traction. Traffic congestion, parking, pollution and access difficulties have been identified as some of the major challenges in historic towns, and at times a threat to the integrity and attraction of the historic environments (Civic Trust & English Historic Towns Forum, 1993).

In historical urban landscapes, the transition towards a society based on road traffic has not always been easy and has caused different conflicts especially due to the existence of narrow routes and the abundance of symbolic commons (Monheim, 2000). (Van der Borg; Gotti, 1995) Identifies the trend whereby residents of historic urban landscapes are much more mobile than before and frequently have to travel to their workplaces outside of the historical quarters. They also identify the challenge of tourism traffic which tends to take their automobile as close as possible to the part of the city which they want to visit. The historical centres also usually coincide with the physical centre of the city, being an obligatory passing place of the population for multiple journeys, which worsens the problems and impacts (NISSEN, 2008).

Campos (2000), Corral (1998) and Gutiérrez (1998) identified impacts of lack of strategic and integrated planning of historic urban landscapes including:

i. Loss of living quality of the residents, due to the difficulties of transit through their own space of residence;
ii. Difficulties in developing commercial activities owing to the need to supply these through mechanical traction vehicles;
iii. Movement inconveniences that exists between the circulation of vehicles and pedestrians in narrow streets and squares;
iv. Environmental and acoustic problems derived from the contamination generated by the traffic of motorised vehicles.

Gutiérrez (1998) recommended restrictions on the use of private vehicles and the creation of border parking areas as some of the solutions that managers and planners of historic urban landscapes can adopt. Other solutions identified include, road system re-ordering, temporary traffic blocks, the reduction of circulation or the improvement of public transport services.

(Oton & Gonzalez, 2013) aver that, ultimately, sustainable urban motorized mobility in historic landscapes is a function of the way in which private vehicles are limited and spaces are created for the pedestrian, the way that the parking is regulated and organised, the characteristics of the public transport and the spatial distribution of the mobility flows within the historical landscape.

The pleasure of walkable spaces and the link to the human scale are spoilt by vehicular traffic and in many town centres pedestrianisation schemes are being introduced to rekindle pedestrian activity. Because of the influx of people, there is a lot of once available public places in these zones that suddenly become crowded. In

some instances, automobiles such as motor cycles are introduced further taking up narrow roads that are already full of people (Orbasli, 2016).

Many historical towns still have roads and streets that were created hundreds of years ago still in use (Wheeler, 1997). When these roads begin to age and require maintenance, it comes at a high cost due to the special nature of the roads. Because of the relatively limited carrying capacity of existing services in historic towns, the increase in number of residents and visitors, over the years, has also meant increased pressure on provision of adequate infrastructure, superstructure, and other municipal services.

3.0 Methodology

The study adopted a pragmatic research approach incorporating both qualitative as well as quantitative research methodologies. Data was collected and analysed it in a methodical manner, on the basis of observation and interaction with the participants (through questionnaires, through participant observation and in-depth interviews). The study utilized a descriptive, qualitative study methodology not only to analyse and integrate the different components of the study in a coherent and logical way, but also to describe the findings and phenomenon in terms of attitude, values and characteristics. The study population comprised of 21994 residents of Lamu Old Town and various individuals who undertake socioeconomic activities within the town on a day to day basis. The study used a sample of 94 target respondents. A simple random sampling technique was used to choose the individuals that took part in the study. Quantitative and qualitative data was collected using structured questionnaires and Key informant interview guide. The questionnaire targeted pedestrians along Lamu Old Town's seafront street while the key informant guide targeted specific public officers whose respective mandates include urban planning and conservation of Lamu Old Town. Qualitative data, including from existing literature and observation, was collected to triangulate both the individual survey and secondary data for the purpose of validating the results. Data was statistically analysed using SPSS statistical tool that allowed for the measurement of variables, relationships and patterns between them. Data was represented using graphs and tables and descriptive analysis.

4.0 Study area

This study was undertaken in Lamu County, Kenya. Specifically, specifically focusing on Lamu Old Town, a cultural town that is the oldest and the best-preserved living settlement among the Swahili towns on the East African Coast.

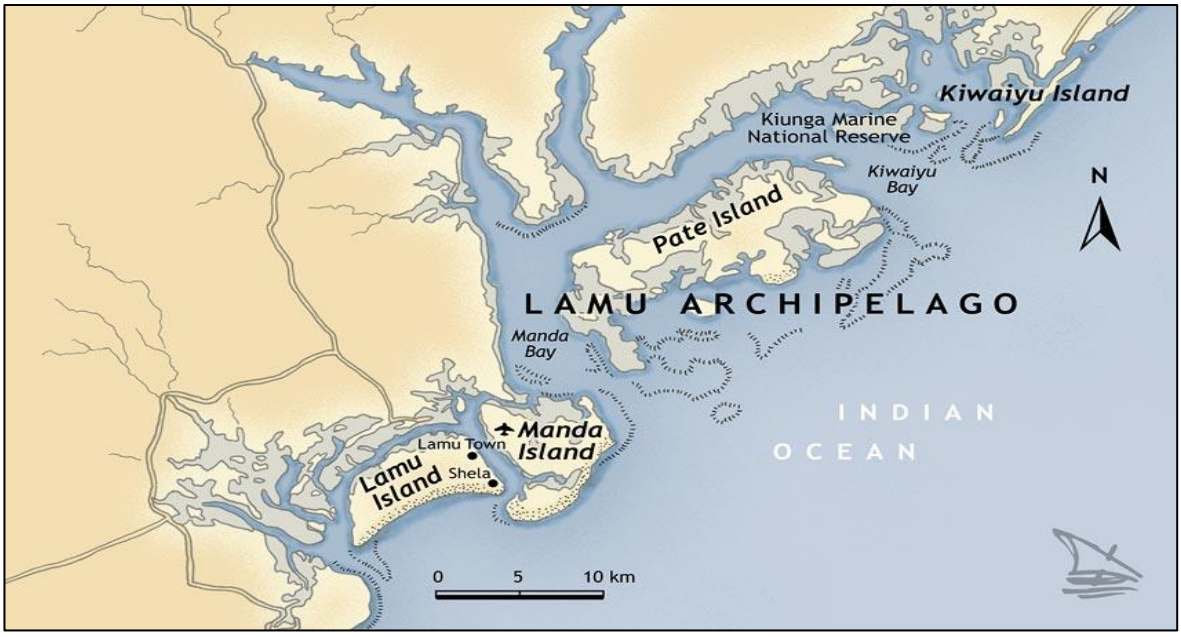

Figure 01: Map of Lamu Archipelago & Lamu Old Town, (Source: www.lamu.go.ke)

5.0 Results and Discussions

5.1 Morphological characteristics of the urban transport in Lamu

Majority of respondents (81%) acknowledge that the number of motorized traffic has increased in Lamu Old Town that the transport situation in Lamu Old Town has not improved over the last six years.

Speed and comfort are the least important attributes to majority of respondents in choosing transport modes in Lamu Old Town. Majority of respondents (61%) identify motor vehicles and motorcycles as transport modes that have most significant impact on Lamu Old Town's physical and cultural environment. They mentioned environmental pollution from exhaust systems of the vehicle and the noise emitted by the motorcycles.

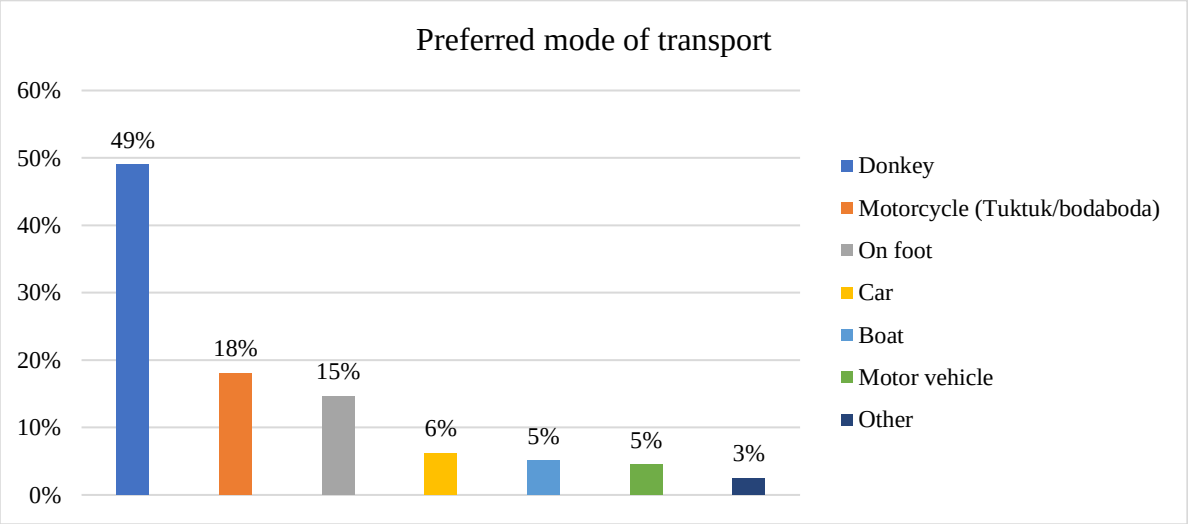

Figure 02: respondent's preferred mode of transport (source: study)

Most of the respondents preferred using donkeys for transport as part the culture. Donkeys and bicycles were identified has having best effect to Lamu Old Town's quality of life. Crowded streets and boats pollution are not significant issues identified by respondents in their day-to-day interactions with transportation in Lamu Old Town. Most, however, feel safe and reach their respective destinations walking

5.2 Transport planning and network

Most of the respondents who participated in the study are not aware of any plans to improve the quality of transport service delivery in Lamu Old Town. Even those that indicated their awareness of the plans to improve on the quality of transport service delivery in the town indicated low level of satisfaction with the existing plan's contribution to improving mobility and conserving the heritage landscape.

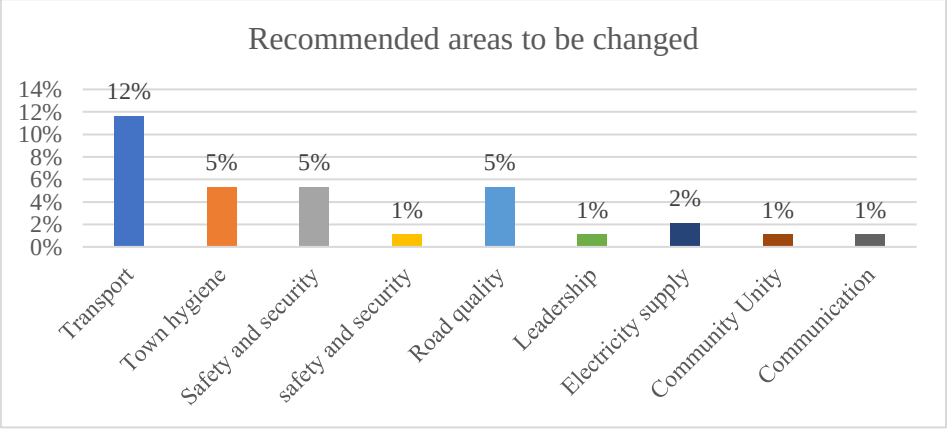

Figure 03: Attributes that respondent want improves (source: study)

5.3 Socio-cultural identities

Majority of respondents who participated in the study spend less than 10% of their monthly income on transport. Cost is, however, an overriding reason for choice of mode of transport to a vast majority (71.8%) of respondents who participated in the study.

Table 1: respondent's monthly expenditure on transport (source: study)

Variables	Valid Percent
Less than 10%	83.7%
30%	9.8%
50%	4.3%
70%	1.1%
Over 70%	1.1%
Total	**100.0%**

Friday and Monday were identified as the most difficult days in terms of mobility within Lamu Old Town. Late morning hours between 8.30am and noon was identified as the most difficult times of the day in accessing Lamu Old Town. This is more experienced on Friday when many people leave their places of residents to go for prayers.

5.6 Discussion on challenges of the motorized mobility in a historic townscape

The findings of the study to the extent that majority of respondents are not only aware that Lamu Old Town is a World Heritage Site, but also that this designation has an effect the day-today interactions demonstrates the likelihood that majority of the residents would support sustaining the cultural and economic contributions associated with this designation. This is also significant especially if it is expected that they are to contribute towards protection and management of their own heritage through sustainable motorized transportation plans and models. The designation as a World Heritage Site also brings a certain prestige not only to a location, but also and its home country. Increasing the awareness of a site and its history also increases awareness of the need to preserve and protect.

The study has established that the amount of motorized traffic has increased in Lamu Old Town and that the transport situation has not improved over the last six years with motor vehicles and motorcycles having an impact on the town's physical and cultural environment. This apparent increased uptake of motorized mobility mode within this conservation zone is not compatible with the urban layout and does not conform to the existing townscape. Ultimately, the type, convenience, availability and unmitigated interaction of different modes of mobility within this fragile urban environment will further not only impacts the quality of urban life therein, but also the architectural structures and forms of appropriation of urban spaces therein. This finding is therefore significant towards establishing mitigative measures to address the apparent intensification of motorized traffic and the development of new transport infrastructure. Even though, there is a proliferation of motorized transport on the streets of Lamu Old Town, the study was able to establish that crowded streets is not yet a significant issue to majority of residents. This would imply that there is still an opportunity towards establishing a sustainable carrying capacity for an integrated approach to both motorized and non-motorized modes.

The study has established that residents of Lamu Old Town prefer non-motorized transport and that speed and comfort are the least important attributes to them in choosing transport modes. This implies that motorized transportation should not be a priority in transport and infrastructure planning and management of the Old Town.

The study has established that majority of residents of Lamu Old Town are not aware of any plans to improve the quality of transport service delivery in Lamu Old Town. This is despite of the existence not only of a Lamu Comprehensive Management Plan since 2013, but also the operationalisation of Kenya's new Constitution, after the 2013 elections, which ushered in a new devolved governance paradigm in the management of natural and socio-economic resources at the County level. The planning and implementation of the Lamu Comprehensive Management Plan and respective County development plans were meant to incorporate public participation and awareness creation in planning and preservation measures and monitoring mechanisms. Public participation is also considered fundamental in contemporary urban planning and management practice in the quest for achieving optimal equity, efficiency and sustainability.

The study also established that there is an opaque working relationship between The National Museums of Kenya, and the County Government of Lamu in as far as urban planning and management responsibilities go. While the overall responsibility of managing Lamu World Heritage Site falls under National Museums of Kenya, Lamu Old Town is an urban center within the planning and public-service provision responsibility of Lamu County government. These responsibilities are overlapping, at the expense of prudent planning and management of motorized mobility within the fragile heritage landscape that is Lamu Old Town. The resultant unregulated environment has seen the proliferation of cars and bodabodas even when the study was able to establish that majority of residents prefer non-motorized modes of transport.

The study was also able to establish that motorized modes of transport have negatively impacted on the resident's quality of life as compared to non-motorized modes (donkeys and bicycles). This is confirmed by the finding that residents are generally satisfied with the safety attribute of current mobility in Lamu Old Town. This is not usually the case where bodabodas are the most common (given their high affinity to road accidents). Donkeys and bicycles are also relatively less comfortable, thereby confirming the study's finding that respondents were generally dissatisfied with comfort attribute to their current mobility. Moreover, the study also established that majority of residents feel safe and reaches their respective destinations walking.
Since majority of residents come into the Old town for livelihood purposes, Mondays and Fridays (between 8.30am and noon) sees the highest traffic and therefore increased transport difficulties for residents. This finding is significant because it enables, if need be, appropriate scheduling of managed-access especially for public service modes of transport within the Old Town.

The study established that cost is an overriding factor for choice of mode of transport in Lamu Old Town even through majority of residents spend less than 10% of their monthly income on transport (probably because they choose to walk). This is significant because it enables appropriate focus on non-costly modes of public transport in the process of urban transport planning for the old town.

Conclusion

This study concluded that Lamu Old Town's historic urban landscape constitutes a challenge not only to the proliferation of motorized mobility but also to the mobility requirements of its ever-increasing population of residents, workers and tourists. The challenge manifests itself through the uncoordinated urban motorized transport planning and management coupled with inadequate stakeholder consultation and engagement in the town's transport planning and implementation processes. The study proposes a comprehensive planning approach for motorized mobility within Lamu Old Town. This should incorporate harmonizing and integrating the various existing planning frameworks that govern transport and mobility within the heritage landscape. The study recommends enhanced collaboration between government agencies and stakeholder participation towards achieving a sustainable, accountable and responsive motorized mobility governance system at the town. The study also proposes specific planning and infrastructural changes including the establishment of a clear buffer zone demarcation between Lamu Old Town and its adjacent zonal

environments; the enhancement of pedestrian userability, aesthetic and security of the labyrinthine street pattern characterizing Lamu Old Town's narrow winding alleys; optimization of the relationship between the seafront street and the comprehensive network of water transport routes and destinations that already form part of the public transport network.

Reference

Bandarin, F., & Van Oers, R. (2012). *The Historic Urban Landscape: Managing Heritage in an Urban Century.* West Sussex: Wiley Blackwell.

Caliskan, O., & Marshall, S. (2011). *Urban Morphology and Design:*. Built Environment.

Commission, U. N. (2001). Draft articles on Responsibility of States for Internationally Wrongful Acts, with commentaries . *Yearbook of the International Law Commission Vol. II*.

Duvelle, B. G. (2013). Cultural Heritage and Sustainable Development: A Rationale for Engagement. *Paper presented at workshop on Introducing Cultural Heritage into the Sustainable Development Agenda organized by UNESCO.* Paris: UNESCO.

Ebbe , K. (2009). *Infrastructure and HerItage conservatIon: opportunItIes for urban revItIlIzatIon and economIc development.* Washington DC: Urban Development Unit, The World Bank .

M.-T. Albert, M. R. (2012). Community Development through World Heritage. *World Heritage Papers*.

Mugenda , A., & Mugenda, O. (2003). *Research methods quantitative and qualitative approaches.* Nairobi: Act Press.

Newman, P., & Kenworthy, J. (1999). *Sustainability and Cities: Overcoming Automobile Dependence.* Washington DC: Island Press.

NISSEN, S. (2008). Urban Transformation From Public and Private Space to Spaces of Hybrid Character. *Czech Sociological Review*, 1129–1149 .

Nocca, F. (2017). The Role of Cultural Heritage in Sustainable Development: Multidimensional Indicators as Decision-Making Tool. *Sustainability — Open Access Journal*.

Okech, R. (2010). Socio-cultural Impacts of Tourism on World Heritage Sites: Communities' Perspective of Lamu (Kenya) and Zanzibar Islands. *Asia Pacific Journal of Tourism Research*, 339-351.

Oton, M. P., & Gonzalez, L. R. (2013). *MOBILITY MANAGEMENT IN A HISTORIC AND TOURISTIC CITY: THE CASE OF SANTIAGO DE COMPOSTELA (SPAIN).* Santiago: Faculdade Letras Universidade do Porto.

Oursler, A. (2016). *Understanding the decline of physical infrastructure and buildings in Kenya's Lamu Old Town* . Chicago: American Planning Association.

Pedersen, A. (2002). *Managing Tourism at World Heritage Sites: a Practical Manual for World Heritage Site Managers.* Paris: UNESCO.

Pereira Roders, A. &. (2011). Bridging cultural heritage and sustainable development. *Journal of Cultural Heritage Management and Sustainable Development*, 5-14.

Simon, T. (2005). Into the Future. Our Strategy for 2005-2010. *Conservation Bulleting*, p. 49.

Tiesdell, S., Taner , O., & Heath, T. (1996). *Revitalizing Historic Urban Quaters.* New York: Architectural Press.

UNESCO. (2011). *Recommendation on the Historic Urban Landscape.* Paris: UNESCO.

UNESCO. (2013). *Swahili Historic Urban Landscapes:Report on the Historic Urban Landscape Workshops and Field Activities on the Swahili Coast in East Africa 2011-2012.* Paris: UNESCO.

Wołek, M., & Decker, Bernd. (2012). Sustainable urban mobility plan as an instrument of urban transport policy. *Social and Behavioral Sciences*, 2748-2757.

Yamane, T. (1973). *Statistics: An Introductory Analysis. 3rd Edition.* New York: Harper and Row.

Young , C., Gamini, W., & Jane , T. (2013). *Managing Cultural World Heritage.* Paris : UNESCO.

Zubiri, Z., Hao, K., Hussain, N., & Isip, p. (2018). REJUVENATING THE SHOPHOUSE: CONSERVATION OF HISTORICAL BUILDINGS IN PENANG'S UNESCO WORLD HERITAGE SITE. *International Journal of Heritage and Architecture*, 335-346.