

EXPLORING THE ELEMENTS OF URBAN METARMOPHOSIS THAT SUSTAIN THE PLACE INTEGRITY OF HISTORIC URBAN CENTRES: THE CASE STUDY OF SLAVE ISLAND, COLOMBO

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Abstract

Cities around the world have experienced unprecedented changes in their economy, environment and society due to rapid globalization and urbanization. Contemporary colonial cities of South Asian countries are dynamic, rapidly growing and continuously changing. Thus, urban transformations and mutations are not a new phenomenon, but rather a continuous process.

A historic city and its heritage enables people to better understand previous generations and the history of where they came from, and offer place integrity and unity in the city. The study scoped within the discussion of urban metamorphosis in relation to morphological elements in Slave Island. Slave island is a Colonial city with vast collection of old buildings, yet serves as a home to all aspects of social and cultural urban life. It is an example for "Utilitarian architecture" where it comprises different kind of structures, designed and built by architects and non- architects in public and private spaces. This bustle commercial hub which has a dominant character of urban transformation where it sustains the historic authenticity while responding to urbanization. In such cases population of communities endures place integrity in the heart of old city.

The objective of this study is to examine the engagement of social activities in development which incited place integrity. Further it aims to study the factors which preserved within the historical setting in relation to the elements of urban metamorphosis. The urban mutations of the existing physical structures have interconnections with social, economic, cultural and other aspects. Continuous urban growth, diversified activities, and social perception will always mutate the cities.

Certain parameters have taken to measure Place integrity and identified the sense of place to analysis the sustained historic authenticity of this situation. Further the research has identified socio-cultural relationship of transforming urban setting.

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Keywords:*Urban metamorphosis, place integrity, historical setting, urbanization, historic authenticity*

Introduction

City is a vast scale construction in space, a multi-functional system, which is continuously evolving and transforming. Cities around the world have experienced unprecedented changes in their economy, environment and society due to rapid globalization and urbanization. Therefore, these dynamic, rapidly growing and continuously changing cities represent a continuous process of urban transformation and mutations.

Urban modification factors in a city are usually recognized by as globalization and unification trends. Most important is that transformative processes are highly dynamic and non-linear, thus affecting functions of urban land uses in different ways and with varying consequences. Activated changes of these physical forms reflect the needs of the society and technological development. Analysis of streets and nodes in a colonial city would be possible to examine the urban transformation and mutations. The physical features and appearance play an important role in influencing the sense of place. They contribute to making places more legible to the users-which can be identified, organized and navigated by people (Lynch,1960). Built form with identifiable layout and clarity of the cityscape in terms of its physical form and function.

This research will delve deep into the fabric of everyday life to assess how inhabitants understand, negotiate, and struggle with the diversity of the city through their everyday usage of streets and buildings. Divergent of physical forms, and how they have been transformed and mutated as a reflection of technology influencing and forming contemporary urban territories would discuss as a crucial factor. Also it will highlight how it has been integrated the contemporary architecture into the historic setting.

This evaluation will be useful in further development of city planning, since it will propose criteria on imaging cities through a composition of physical and social context to reach the goal of sustainability in urban transformations.

Research question

Rapid transformation of the existing urban forms, leading to building up of contradictions on spatial integration in urban setting of a city.

Decreasing the state of subtle balance between place and space, shaking the sense of place.

Urbanization of Colonial cities in South Asian countries

Karachi, Bombay, Madras, Colombo, and Calcutta are some of the littorals cities which were linked with European empire from long distance maritime trading and snipping networks with regional movements of people, commodities and ideas. These cities are also seen as foreign enclaves, socially, morphologically and culturally distinct from their localities.

The commercial function of these colonial cities, and their political and environments shaped the city's social and physical morphology. Concentration of functions into a particular city reflect the importance of the town and the successive process of European trading and technological development, which was began in 18th century.

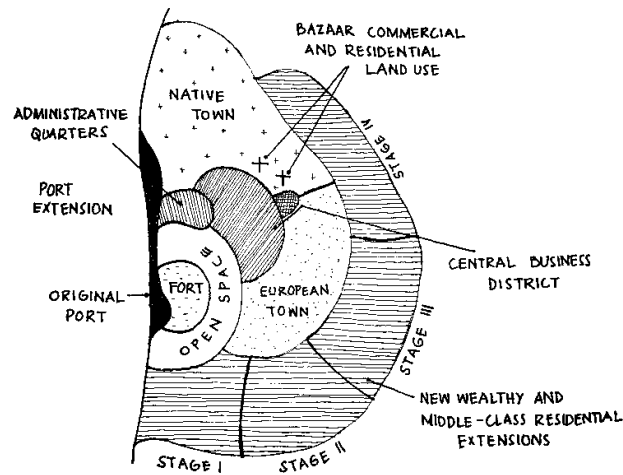


Fig.1: South Asian Colonial city structure
Source: Brunn and Williams, 1983

South Asian region is characterized by rapid economic growth, with the cohesive powers of politics and the new trends of urbanization. Major concerns about south Asian cities is that the improvements of physical structures and massive construction projects in socialized spaces. Also more land is required for the developing projects, which changes the city's infrastructure and built environment. It will be a result in relocation of citizens, activities, functions and demolition.
Ex: TATA housing project, Slave Island – relocation of low income settlements
Incremental housing strategy



Fig.2: New archipelago of incremented kaccha houses rising from a context of well-built permanent homes in a typical slum- Pune, India
Source: www.archdaily.com

Urbanization of Colonial cities in Sri Lanka

Colombo, Batticaloa, Galle and Jaffna are some of the colonial cities in Sri Lanka where historically served as main forts for European empires. Among them Colombo is predominantly a colonial product. It had been the colonial capital for about four centuries under the super

vision of Portuguese, Dutch and British. Architectural heritage was the only source of the city which has been left behind to become a representation of the glorious past. After the independence, along with the country, Colombo city also has passed through four distinctive sub-phases of political history, absorbing various forms of influences (Manawadu, 1996). Some of these phases were detrimental to the historic urban fabric of the city.

According to Manawadu in 1996, after the independence, latter part of 1970s, was much dynamic and, at the same time much violent. the change of government policy during this period was able to change the skyline of the city of Colombo drastically. In 1980s, it caused irreparable damages to the valuable architectural heritage of the city. Government destroyed several fine historical buildings which could have been treated as architectural heritage. These buildings were housing government and private institutions.

Meanwhile with the urbanization of Asian countries, large amount of foreign exchange hovered into the country. New materials and technology was introduced with new architectural concepts to Sri Lanka and at the same time. As a result of this modernization process, local and multinational companies started to erect their office buildings at the heart of the city.

According to Manawadu (1996), result of aforesaid economic growth, two detrimental forces were effective on historic urban fabric of the city.

- Gradual degradation of the historic neighbourhood with distinction of residential facilities within the city.
- Appearance of high rise building blocks, either dwarfing or demolishing historical buildings, disregarding the context of the urban fabric.



Fig.3: Changes of the urban fabric- Cargills building, York street, Colombo

Source: www.lankapura.com



Source: Bhagiraj Sivagnanasundaram,

Retrieved from www.theasianpictures.com

Transformation of urban setting

‘Urban’ varies from country to country, and, with periodic reclassification, can also vary within one country over time, making direct comparisons difficult. An urban area can be defined by one or more of the following: administrative criteria or political boundaries (e.g., area within the jurisdiction of a municipality or town committee), a threshold population size (where the minimum for an urban settlement is typically in the region of 2,000 people, although this varies globally between 200 and 50,000), population density, economic function (e.g., where a significant majority of the population is not primarily engaged in agriculture, or where there is surplus employment) or the presence of urban characteristics (e.g., paved streets, electric lighting, sewerage). In 2010, 3.5 billion people lived in areas classified as ‘urban’. (UNICEF, 2012)

A city is in a stage of continuous growth, where it organizes diversified activities and supports ancillary functions acting through the network in interconnection with other cities (Mozuriunaite,2012). Cities always modifies with development of technologies, economical background, and life patterns. “Every citizen has had long associations with some part of his city, and his image is soaked in memories and meanings” (Lynch, 1960). Identity of places have linked to meanings and perception held by the people in relation to the environment. Today most of the Asian countries has fit into globalization trends with rapid urban metamorphosis and transforming their physical configurations based on spatial and land use practices.

Transformation refers to an act, process or instance of transforming or being transformed (Webster's Dictionary) Transformations in urban design is rather a continuous process. Basic factors of urban transformation are related to development of technologies, globalization, politics, lifestyles and climate changes, which in combination with local factors have generated an extremely huge variety of urban development conditions (Mozuriunaite,2012).

According to Yang (2010), urban transformation has been ongoing and shaping cities throughout human history. The scale of the prevailing urban transformation since the mid-1980s is unprecedented and the nature and direction of urban growth is more dependent on the economic activities than ever before. Urban transformation being influenced by continued socio- economic and environmental economics dynamics. Managing urban transformation in this context has increased in both scope and complexity and has become one of the most important challenges of the 21st century.

Mutation is a strong term of collected problems of a large city while analyzing the modifications of the surrounding environment. The urban mutation of physical structures has interconnections with social, economic, cultural and other aspects. Continuous urban growth, diversified activities, and social perception will always mutate the cities.

Economic transformation

Economic transformation is a long term change of dominant economic activities, and it depends on the commitment of employment in a particular country. Initiating from the nomadic hunting and gathering period, economic activities have undergone through international industry to global services. And now it has been extended towards the public sector activities.

Physical transformation

Physical structures in an urban area change differently by their form, content, impact on residential environment, connections, social and economic development. Therefore, urban built form is a very flexible structure, which is sensitive and allows for a deeper insight to urban structural problems and factors. Thus this study will explore the changing morphological patterns due to the urban transformation and mutation in urban built forms.

Physical transformation and social perception

The question about how the urban configuration affect social life has found more than one particular interaction which could answer them. More important the complexity of cities also advocate that any particular interaction between built structure and user is neither unique nor deterministic.

Sense of place, place attachment, meaning of place, and place identity are some of the key concepts which have devoted in urban designing in the field of environmental psychology. Physical transformation of an urban setting could change the urban form and the identity. People have always linked with the immediate environment of a particular place, and memories related with a setting place have the power to recall emotions and stir memories that have been dormant while the person was away from the place.

Physical metamorphosis can be experienced either with built form or function. Built structure is sensitive and flexible. It has direct connections with human behavioral pattern. The cultural context is another factor which effects to the nature of urban form and the activities it accommodates. Therefore, a city development level and size is directly proportional to the urban function mutations, their dynamics and amount (Mozūriūnaitė, 2015).

Life pattern of the community can produce a surprisingly powerful influence on a city's development trajectory. Important societal forces at play, directly influence the forms of cities, among these real-estate markets, energy prices, the reliability of utilities and services, geographic constraints, climate conditions, history and of course people's will (Sevtsuk, 2012). Some places like intersections of roads or nodes, augment social decisions to locate certain economic activates. People start to reshape the built environment according to their needs and some do house different activities in the vicinity of the node. The initial geometry of the roads gets affected with the physical mutations.

By placing various activities, people shape the built structures, and built forms shape the behavioral patterns accordingly.

Unlike erecting new buildings and plugging different elements, the urban infills has a different perception towards social life. This unfolds overtime, and it generates additional demand on the infilled place. Also it alters the initial geometry and memory of place.

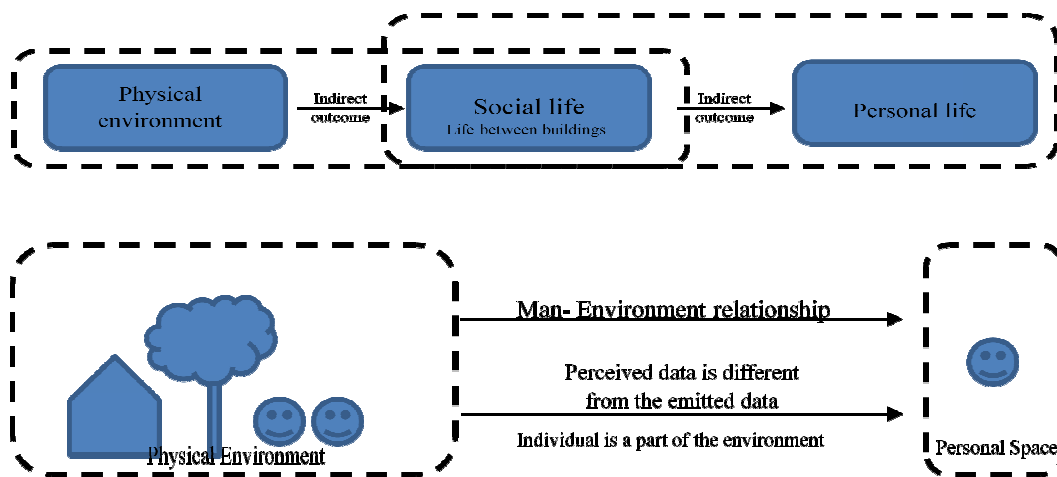


Fig.4 :Physical and Perceived world
 Source: Piga,B. and Morello, E.(2015)

Place integrity

Planner and historic preservationist writes,

“the character of our built environment, historic areas and others, is directly related to both the strength of our communities and the quality of place. The concepts, community and place are inseparable. ‘Place’ is the vessel in which the ‘spirit’ of community is stored; ‘community’ is the catalyst that imbues a location with sense of place. Once understood in the context, many things begin to make sense.”

Rypkema, 1996

‘Place integrity’ or ‘Sense of place’ is a concept which is changing a typical space to place with special behavior and sensory characteristics for certain people. It meant connect to place by understanding of everyday activities and symbols associated to it. This sense can be created in an individual living place and be expanded along he/her life (Relph, 1976).

Steele (1981) wrote an early formative work specifically on sense of place from the perspective of industrial psychology. The Sense of Place focused on understanding place as a means to improving quality of life for everyday citizens. He described place as a transactive relationship between person and setting, and outlined types of place.

Table 01: Experiences and major characteristics of place

Types of Place Experiences	Major Characteristics of Place
<ul style="list-style-type: none"> • Immediate feelings and thoughts • Views of the world • Occupational experiences • Intimate knowledge of one spot • Memories or fantasies • Recognition or newness • Personal identification with a "spot" • Accomplishment or blockage • Sense of enjoyment or displeasure 	<ul style="list-style-type: none"> • Identity • History • Fantasy • Mystery • Joy • Surprise • Security • Vitality • Memory

Source: Steel, 1981

Social integration into a place

The interaction between humans and places is in three dimensions: According to Altman and Low, 1992 (as cited in Hashemnezhad, Heidari, Hoseini, 2013) the dimensions are as follows,

1. Cognitive
2. Behavioral
3. Emotional

Altman and Low (1992) declares,

1. Cognitive aspect of the interaction is led to spatial perception and during that, people know he environmental elements and use them to navigate their way.
2. Behavioral aspect of the interaction is mentioned to activities and functional relationship between people and environment.

3. Emotional interaction with place points to satisfaction and attachment to place. So this statements proved that the social involvement into a place is very essential in urban design, and it always connects with the human behavioral pattern.

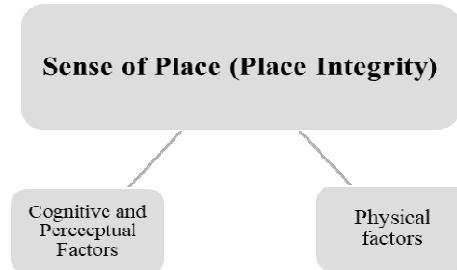
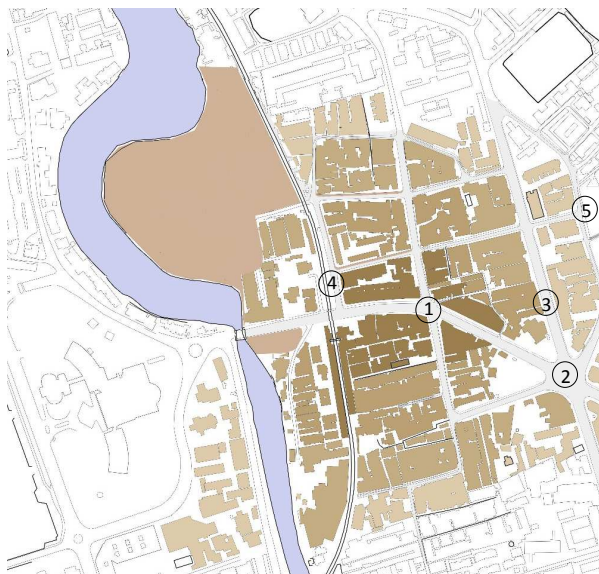


Fig.5: Factors forming Place integrity
Source: Steele, 1981

Research Methodology

Slave Island is can be identified as an example for 'Utilitarian architecture' where it comprises of divergent built structures in public and private spaces. Public and private spaces have defined with spatial tectonics and spatial formations. Built structures regulate and propose the spatial experience and controls emotional, social, and temporal existence of such neighborhoods. It initiates dialogues in terms of the character, tradition and artistic cognition of these self-built, improvised construction.



- 1) Junction at the Justice Akbar Mawatha
- 2) Main junction at Slave Island
- 3) Kumaran Ratnam Road
- 4) Glennie Passage
- 5) Sri Murugan street and Kovil

Fig.8: Selected places for the case stuuy
Source: Author

Research Stages

Table 02: Research methodology

Stage	Methodological steps
1.Quantitative Data	<ul style="list-style-type: none"> • Identifying the Colonial city and selection of streets • Identifying the historical buildings and studying the street façade (built form, material quality, textures, user perception etc.) • Analyzing through mapping
2.Qualitative Data	<ul style="list-style-type: none"> • Onsite observations of streets • Capture the effects and quality of user perception towards historical and new erected buildings • Questionnaires

Source: Author

Theoretical position

Main purpose of this chapter is to provide an explanation of the research design. Theoretical background, domains and scales and the framework of the study would include accordingly. First and fore mostly the theoretical background will comprise of the definitions based on a grounded theory research. The study involved the reviews of previous research and data collection using sociological scales.

“Psychometric measurement tool” has been used to present the methodology, to evaluate the combination of relationship with place and social activities and their percept ion and values. Methodology is based on literature reviews, focus groups and quantitative and qualitative analyses.

Place attachment points to a complex relationship between person and place is basically the place integrity which developed as the spine for the research methodology. Summary of the literature review used to develop the methodology and followed the models of Bott.S (2000), Banning.J (2008), and theories of Lynch (1962), and Alexander, et al (1977)

The significance of validating perceptions of “Spirit of Place” is that it tangible constructs that provide the foundation for implementing strategies to conserve, promote, and communicate shared global heritage (Bott and Banning, 2008).

A summarized sheet of definitions from different authors have given below.

Table 03: Definitions for Place integrity

Author	Definition
Canter	Individual and collective values influence on a sense of place affected on individual behavior and social values and attitudes. People usually participate in social activities according to their sense of places.

Cox	The Sense of Place continuity of place necessary to people’s sense of reality.
Lynch	Physical features and appearance play an important role in influencing the sense of place. They contribute to making places more legible to the user which can be identified, organized and navigated by people.
Nairn	It seems a common place that almost everyone is born with the need for identification with his surroundings and a relationship to them with the need to be in a recognizable place. So Sense of Place isn’t a fine art extra, it is something we can’t afford to do without.
Relph	Sense of place is the ability to recognize different places and different identities of a place.
Schulz	One of the properties of space is it’s “spirit”-genius loci, so difficult to define. It determines the specificity and uniqueness of place, and its components aren’t only physical elements, but also meanings, symbols, and emotions.
Steele	Sense of place is the experience of all that things which people Induce to places. The factors which create a sense of place, are divided into two categories: Cognitive and Perceptual

The objective was to obtain extensive high quality data in a social setting where people considered their views in the context of others, thus providing relatively consistent responses to the most important concepts (Patton 1990).

According to Bott (2000), the focus group was given the following questions to be answered,

- A. Visualize yourself in a special place outdoors in a town or other developed setting, a place which holds significant meaning for you. Think about why it has meaning for you and the feelings it evokes for you. What makes this place unique, meaningful or special? What words come to mind in describing this setting?
- B. Using the same process, visualize a town or other developed setting that you don't like, which has little or no meaning, and which holds no interest for you at all. What makes it undesirable or devoid of meaning? How would you describe this setting?

The questions have created in such a way to evoke the memory of a place. Memory is important to form the impression of place, leading to the social behaviors, the place attachment and the dependence.

Domains and scales

According to Bott (2000) an expert panel consisting of doctoral research committee were used to evaluate general factors categories. Based on their opinion four specific “domains” were generalized and they are as follows:

- 1) Physical setting
- 2) Cultural setting
- 3) Affective setting
- 4) Functional setting

The following table present the domains, scales and items used in the survey to measure sense of place.

Table 04: Domains and Scales

Domains and Scales	Items
D1. Natural/ Physical Setting Domain	
S1. Natural setting Scale	Natural, has good lighting, has a good amount of trees
S2. Built Environment Scale	Made of materials which are appropriate in colour, made of materials which fir the setting has attractive building
S3. Character Scale	Clean, alive, peaceful, distinctive, harmonious, balanced, well- maintained, simple, spacious, open
D2. Cultural Setting Domain	
S4. Inherent Sociocultural Scale	Historic, authentic, has a spirit of the people, fits within the larger context, supports the activities of surrounding, feel a sense of history
S5. Transactional Sociocultural Scale	Offers a sense of belonging, provides opportunities for interaction with others, generates respect for the individual, has a distinct energy, feel a part of the community, feel a sense of belonging
D3. Affective Individual/ Personal Domain	
S6. Significance Scale	Meaning, significant, interesting, valuable
S7. Existential Scale	Feel a sense of connection, feel a sense of own identity, feel a sense of attachment, feel a sense of ownership
S8. Memory Scale	Familiar, well- known, memorable, feel a sense of connection, feel a sense of nostalgia
S9. Aesthetic Scale	Beautiful, aesthetically pleasing, pleasing to look at, generates a positive sensory experience, feel a sense of awe, feel a sense of appreciation
S10. Transcendental Scale	Inspirational, magical, sacred, a spirit of place, feel alive, feel inspired, feel strong emotions
D4. Functional Individual/ Personal Domain	

S11. Purposive Scale	Meets the expectations of a setting
S12. Informational Scale	Understandable, provide a sense of direction, has distinct landmarks, easy to find the way around, provides information, makes way-finding seem intuitive
S13. Prospect Scale	Sense of opportunities, feel to explore, feeling for options, sense of mystery
S14. Refuge Scale	Non-threatening, has obvious boundaries, offers shelter
S15. Well- being Scale	Safe, comfortable, warm, serene, reassuring, revitalizing, calm

Source: Bott, 2000

Framework for analysis

This approach is to explore the values of different options on specific criteria. It assesses the level of identity through a ground theory of “Sense of Place” which followed by observations. The three main key design elements of the study (Activity, Physical setting and Image) are the required objectives to contribute to develop the Identity of a place.

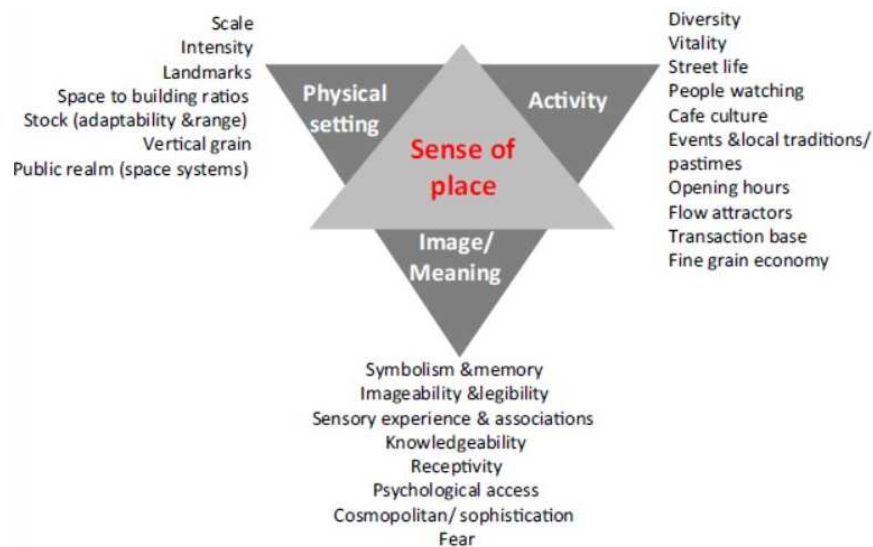


Fig.9: Sense of Place

Source: Shawket, I’s study (as cited in Carmona, M., Tiesdell, S., Heath, T., and Ocas, T.,2003. P.122)

- A pilot study was conducted prior to the framework analysis. Fig.d out the dominant structures, public spaces and identified the urban setting through literature review.
- Data collection: Urban Development Authority
 Colombo Municipal Council
 Department of Census and statistics

Informal and formal interviews

Observations and photographic survey

Each of the above design elements have been used to observe the mutations of urban setting in Slave Island. Selected design elements have briefly described below.

Table 05: Descriptions for the selected Objectives and Design elements

Key objectives	Design elements	Description
Physical setting	Scale	Self-referential ratio of one distance to another distance or one size to another size. Continuity of experience from one scale to another is an integral part of the sense of continuity of the urban fabric.
	Intensity	Potential for endless random and unpredictable interactions between heterogeneous individuals and activities.
	Landmarks	The point references considered to be external to the observer, are simple physical elements which may vary widely in scale.
	Public realm	All areas to which the public has access (roads, streets, lanes, parks, squares, bridges and open spaces) publicly available spaces among buildings or other structures enclose them.
Activity	Diversity	Variety of the physical environment, architectural diversity and ornamentation, landscape elements, street furniture, signage, and human activity.
	Vitality	State of being strong and active, energy.
	Street life	Divergence of daily activities and human behavioral pattern.
	Events and local traditions	Seasonal events of different ethnicities enhance the enthusiasm of an urban setting.
Image	Imageability and legibility	Physical object which gives it a high probability of evoking a strong image in any given observer. The shape, color, or arrangement which facilitates the making of vividly identified, powerfully structured, highly useful mental images of the environment.
	Symbolism and memory	Practice of representing things by symbols, or of investing things with a symbolic meaning or character.
	Psychological access	Memory which directs the observer towards the urban setting.
	Receptivity	Having the quality of admitting.

Source: Author

Therefore, the chart below is the framework for analysis, also this will use to observe the case study area and direct to come up with conclusions regarding the sustained historical authenticity of Slave Island.

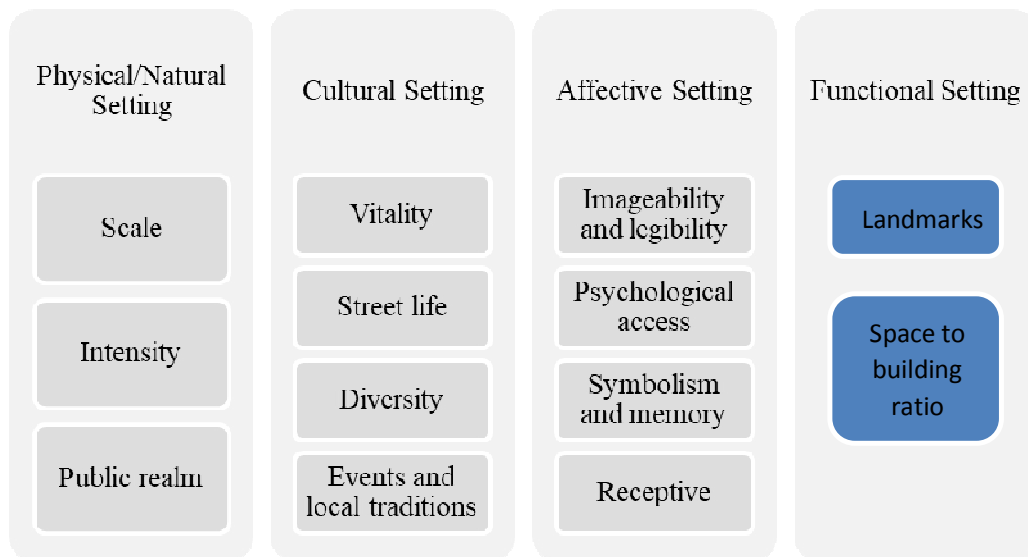


Fig.10: Framework for analysis
 Source: Author

Findings and remarks

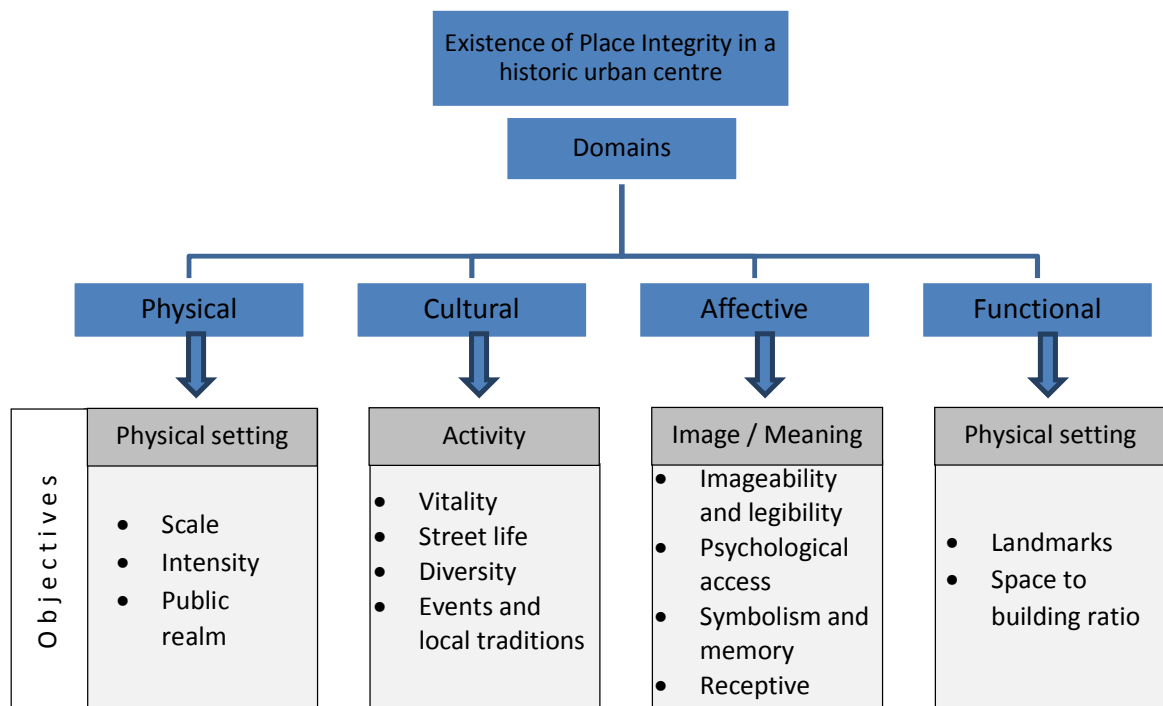


Fig.11: Evaluation of findings
 Source: Author

- Identity of a historic center mutate with the social participation according to the new directions of urbanization and globalization.

- Community and the commuters have perceived the physical setting as the most important factor which sustain the historical authenticity, with the urban metamorphosis.
- Image or the meaning and activity are equality important, but it varies from one place to another according to social perception and personal differences.

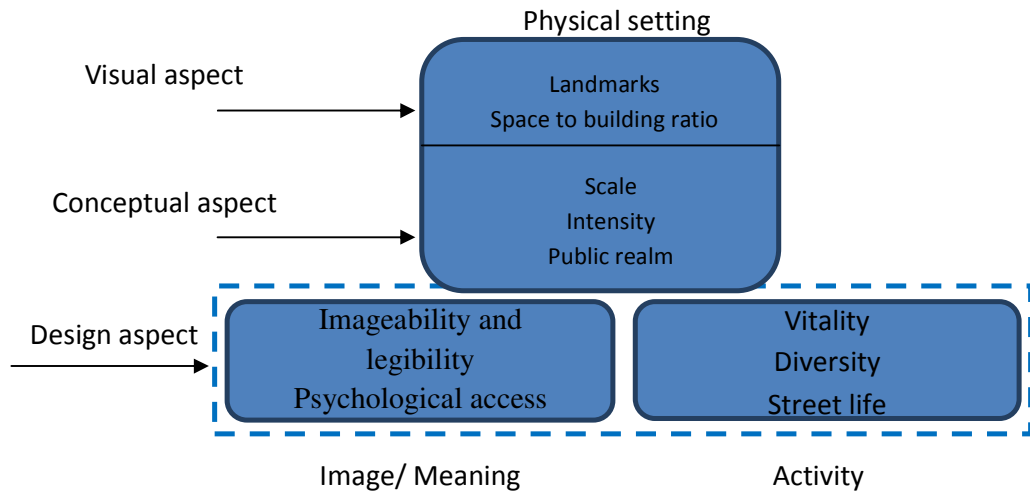


Fig.12: How Visual, Conceptual and Design aspects relate to the key objectives
 Source: Author

Table 06: Descriptions for the selected Objectives and Design elements

<p>Place 1</p>	<p>Junction at the Justice Akbar Mawatha - Place 1</p> <table border="1"> <thead> <tr> <th>Domains</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>Functional setting</td> <td>97</td> </tr> <tr> <td>Affective setting</td> <td>88</td> </tr> <tr> <td>Cultural setting</td> <td>90</td> </tr> <tr> <td>Physical setting</td> <td>87</td> </tr> </tbody> </table>	Domains	Percentage (%)	Functional setting	97	Affective setting	88	Cultural setting	90	Physical setting	87
Domains	Percentage (%)										
Functional setting	97										
Affective setting	88										
Cultural setting	90										
Physical setting	87										
<p>Place 2</p>	<p>Main junction at Slave Island Place 2</p> <table border="1"> <thead> <tr> <th>Domains</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>Functional setting</td> <td>95</td> </tr> <tr> <td>Affective setting</td> <td>92</td> </tr> <tr> <td>Cultural setting</td> <td>97</td> </tr> <tr> <td>Physical setting</td> <td>95</td> </tr> </tbody> </table>	Domains	Percentage (%)	Functional setting	95	Affective setting	92	Cultural setting	97	Physical setting	95
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Functional setting	95										
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Source: Author

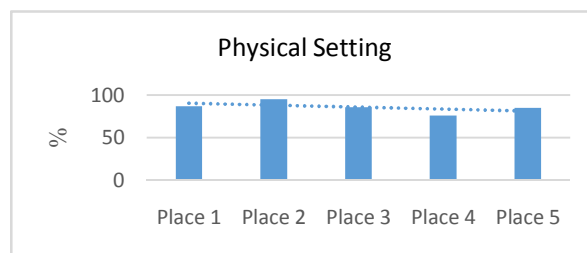


Fig.13: Comparison of Physical setting among selected places

Source: Author

95% of the neighbourhood community is satisfied with the Physical Setting of Place 2, which is the main junction of Slave Island where six roads get interconnected. Place 4 which is the Glennie Passage is less in natural setting when compared with other places.

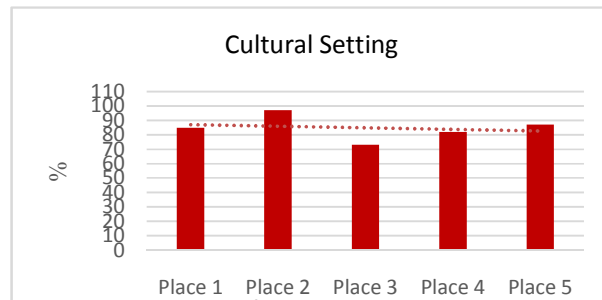


Fig.14: Comparison of Cultural setting among selected places

Source: Author

Cultural setting of Place 2 has satisfied by 95%, which has a rich socio cultural background. It offers a sense of belonging, and opportunities for interaction. 72% has satisfied with the cultural setting of Place 3 (Kumaran Ratnam Mawatha) which is a one-way road.

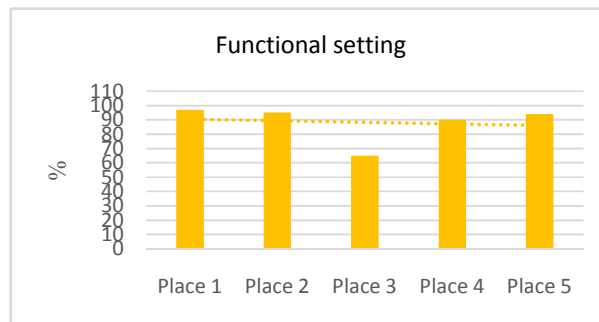


Fig.15: Comparison of Functional setting among selected places

Source: Author

Interesting and aesthetically pleasing places like Place 1(Justice Akbar Mawatha), Place 2 (Main Junction), and Place 5 (Sri Murugan street and kovil) has satisfied with Affective Individual setting.

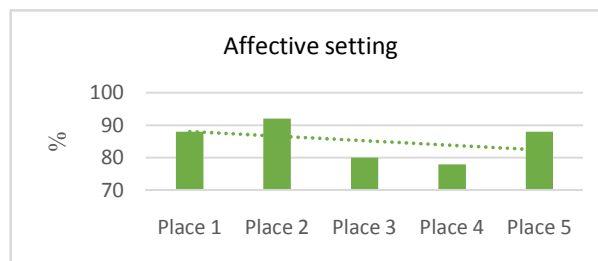


Fig.16: Comparison of Affective setting among selected places

Source: Author

Place 2 is again considered as the best place for Functional Individual setting, with sense of comfort, and sense of direction.

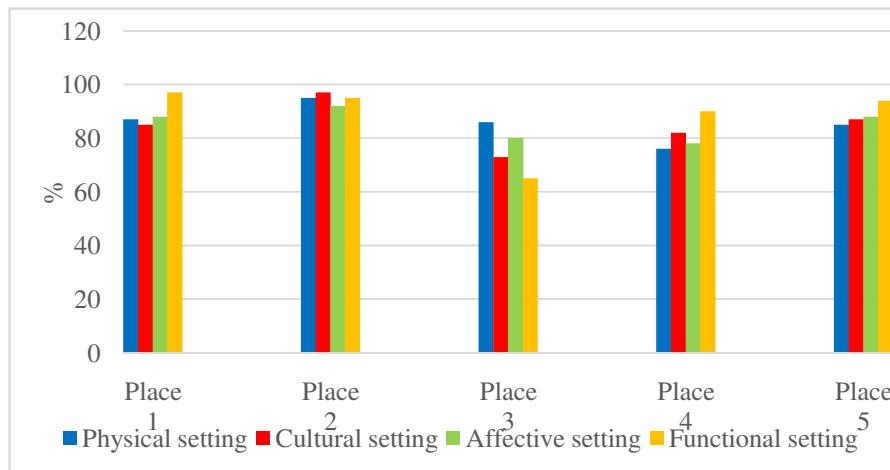


Fig.17: Evaluation of selected places according to Domains
 Source: Author

It is certain that Place 2 has high place integrity when compared to other places in the intervened area. accordingly Place 1 and Place 5 comes next. Place 3 has less place integrity but still all five places could maintain their values and traditions with the urban transformation.

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