

**EVOLUTION OF PUBLIC SPACES IN INFORMAL SETTLEMENTS: QUESTIONING
THEIR DEGREE OF PUBLICNESS**

The Case of Dar es salaam

Mwita Gerald R.

M.Sc. (Architecture) Dissertation

Ardhi University

May, 2021

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The Case of Dar es salaam

By,

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**A Dissertation submitted in Partial Fulfilment of the Requirements for the Degree of Master of
Science (Architecture) of Ardhi University.**

Ardhi University

May, 2021

CERTIFICATION

The undersigned certifies that he has read and hereby recommend for an examination of a dissertation entitled 'Evolution of public spaces in informal settlements: Questioning their degree of publicness' in fulfillment of the requirements for the degree of Master of Architecture of Ardhi University.

Dr. Ombeni Swai (Supervisor)

Dr. Fortunatus Bahendwa (Supervisor)

Date:

DECLARATION AND COPYRIGHT

I, **Mwita, Gerald R.**, declare that this dissertation is my own original work and that it has not been presented and is not be presented to any other University for a similar or any other degree award.

Signature

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ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all who have contributed in one way or the other towards the accomplishment of this dissertation. First of all, thanks to the Almighty God who gave me strength, breath, and perseverance to accomplish my academic term from 2018 to 2020. To God be the glory, through him everything is possible.

My deepest sense of appreciation goes to my supervisor Dr. Ombeni Swai and Dr. Fortunatus Bahendwa for their close assistance, guidance, and supervision throughout this research. It was an impeccable privilege and experience to work and study under their guidance.

I'm deeply honored and grateful to receive the best academic support from the School of Architecture, Construction Economics and Management (SACEM) in Ardhi University which is currently led by school Dean, Dr. Shubira K; Dr. Mtana S., (Head of Department of Interior Design); Dr. Mbisso (Head of Department of Architecture). Moreover, I deeply appreciate the intellectual assistance I received from Prof. Mosha L.H; Dr. Mpyanga; Dr. Liberatus Mrema; Dr. Makundi; Dr Shubira; Dr. Isabel Mtani, and all other staff members who directly or indirectly shaped and elevated me in remarkable ways.

I thank my beloved parents, Mr. and Mrs. Revocatus Mwita, and my sister Victoria Mwita who have always been my endless cause of inspiration and passion, not only during this dissertation period but also in my entire life.

I would also like to express my greatest gratitude to all staff members in the local authorities of the informal settlements used in the study for their constant welcome and assistance. Moreover, my deepest regards and appreciation go to all the residents of Keko Machungwa, Hanna Nassif, Makongo, and Kunduchi Pwani in Dar es Salaam.

My best gratitude heads out to my friends and classmates at Ardhi University who have generously advised and improved my dissertation. I would never forget the chats and beautiful remarkable moments we shared.

DEDICATION

To my beloved father; Mr. Revocatus Mwita; mother, Mrs. Sophia Mwita, and supervisor, Dr. Ombeni Swai.

ABSTRACT

In a formal setting, most of African cities planning ideas and standards are derived from the global north thus dictating and governing the design and allocation of public spaces. There is an interesting case about the existence of public spaces in informal settlements, which are not guided by the strict formal regulations and guidelines of the planning system. It was observed that different studies explaining the process of land subdivision and evolution of public spaces within that process are focused in the formal planning and that there is scant knowledge to explain the dynamics of evolution of public spaces in the areas that have no institutional planning frameworks. Nevertheless, the nature of public spaces and their degree of publicness is highly questionable due to the dynamics of land subdivision in the informal setting.

This study was set to investigate the evolution process of public spaces and their degree of publicness in the informal settlements to acquire a better understanding to inform future public space formation. A case study method was conducted where four informal settlements; Hanna Nassif, Keko Machungwa, Kunduchi Pwani, and Makongo were strategically selected. Several public spaces were discovered whose nature was different from the formal Eurocentric public spaces studied by various scholars. In fact, most of them would have not been qualified to be called public spaces if the formal standards of public spaces were considered. The study discovered mainly three various ways by which the public spaces in the informal settlements evolve; governmental, community, and individual interventions. All these interventions have been observed to come from an afterthought; pre-meditated to serve a certain cause. The nature of the public spaces evolved from such interventions were mostly temporal in nature.

Initially, there was a need to identify the public spaces by examining all types of urban spaces in each of the informal settlements. Using the star model of analysis to assess the degree of publicness of the existing urban spaces and from the in-depth interviews with the locals to investigate the dynamics of ownership,

control and maintenance, the study found out that some places that are informally identified as public spaces, aren't entirely public, and don't qualify to be called public spaces. However, due to the availability and engagement of users the activities found in those particular vibrant spaces, those spaces are known and treated as public spaces up until the present.

The last objective of the study was to formulate strategies and ways to elevate and maintain the public spaces in the informal settlements. With regards to the Meta dimensions of publicness, the study found it necessary to improve each one of them to raise the degree of publicness of the public spaces in the informal settlements. The government is required to recognize all public places and develop ways to sustain them and formulate policies to protect their existence.

Keywords: Informal settlements, Land subdivision, Public spaces, Degree of publicness.

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LIST OF ACRONYMS

NBST	-	National Bureau of Statistics of Tanzania
UDSM	-	University of Dar es Salaam
SDG	-	Sustainable Development Goals
MDG	-	Millennium Development Goals
SLOAP	-	Space Left Over After Planning
CBD	-	Central Business District
MKURABITA	-	Mpango wa Kurasimisha Rasilimali na Biashara za wanyonge Tanzania (property and business formalization programme)

CHAPTER ONE

1.0 INTRODUCTION

1.1 Research background

Public places play a significant role in achieving urban sustainability through their diverse and multiple functions (Varna, 2011). They are important assets that influence the urban planning and urban fabric of most cities. For instance, many western cities are planned and built fundamentally to shape the public space which is determined by the basic structure of urban buildings and urban public life (Xu et al., 2019). For the case of most African countries that derive their planning ideas from the global north, the Eurocentric standards are adopted in the design and allocation of public spaces in the formal setting. However, there is an intriguing case of the existence of public spaces in the informal setting which is questionable because the development of informal settlements is not guided by the formal planning regulations, standards, or guidelines.

In developing countries such as Tanzania, a city (Dar es Salaam) has 70% - 80% of its land occupied by informal settlements (NBST, 2012) where the evolution of this land began with agricultural land that has been informally subdivided into small individual piecemeal of land for housing or other uses. Customary landlords or informal land occupiers subdivide and sell their land piecemeal in order to maximize personal gains/profit while leaving certain areas open to the public. As a result of such a land subdivision procedure, one wonders about the possibility of locating a shared collective public space for different purposes such as public events, play fields, meetings, or aesthetics. If public spaces exist, one goes on questioning their process of evolution and whether under such process/ dynamics they qualify to be called “public spaces”.

The evaluation of publicness and the usage of public space is a debatable discourse that could necessitate a more in-depth understanding. Living, working, and operating in cities where the majority is referred to

as 'informal,' one would certainly like to know where the expression 'public' stands and to who, when, and how publicness is perceived in the informal environment. In practice, certain residents from a cluster of houses, might dedicate a portion of their land to contribute to the creation of a common space for their use, such as a play area for their children to play in. However, the degree of publicness will be determined by the accessibility and permission of the landowners/volunteers, who dictate whether the space is open to all or only to a few residents from nearby houses. Furthermore, its sustainability is highly questionable. A public space can be available at a certain time, but at some other time, the next of kin might seize it and privatize it in this regard. Hence, the possibility of the space always being public is uncertain.

Public spaces originate from the formal planning process, preconceived and they have specific standards, location, and specific use/function/guidelines. Reflecting the same in the informal settlements which house the bulk of the population in Dar es Salaam, one has to question how the process of land ownership and subdivision that is not governed by formal regulation can lead to the provision of public space. One also wonders about the quality of publicness that can emerge from the preceding process. The study aims to investigate how public domains are established, owned, managed, and sustained in informal settings in the absence of institutional frameworks for monitoring or regulating decisions or planning.

1.2 Research gap

It has been observed from different studies that the literature that explains the process of land subdivision and evolution of public spaces within that process is focused on formal planning and that there is scant knowledge to explain the dynamics of evolution of public spaces in areas that have no institutional planning frameworks. Several studies have been conducted and various definitions of 'public spaces' have been generated, mostly based on the Eurocentric formal context. Because of the individual nature of land subdivision and acquisition, this study found the nature of public spaces in informal settlements and their

degree of publicness highly questionable, raising doubts about whether they correlate well with known definitions of public spaces or not. The lack of a clear connection between the two sides creates the research gap that this study intends to fill. Is there another way of understanding public spaces in the context of an informal settlement? Can there be a definition that best describes the nature of public spaces found in informal settlements?

1.3 Research issue

Informality is caused by various factors, among which is the weak machinery to guide land development and land subdivision in fast-growing cities (Kanyama et al., 2005). The entire process of land ownership and land allocation to individual developers where no regulations are involved in the informal land subdivision process poses a question on the possibilities to avail land for public usage. Referring to various definitions of public spaces from different scholars, including (Low et al., 2013 and Kohn, 2004), raise several questions assessing if the known public spaces in the informal settlement are qualified to be called 'public spaces' judging from their process of evolution and degree of publicness. There is scant knowledge of how public spaces are established, (the genesis of their existence and the evolution of their being), owned, and maintained in the informal settlement. In the end, this research clears the doubts and explain the publicness of public spaces and any contradictions with the definitions of 'public space' regarding the informal context.

1.4 Problem statement

Cities in most developing countries are growing faster than the capacity of the government to govern then plan and organize. As a result, informality takes root and gradually spreads like wildfire because it's not guided by formal planning structures. At least 70% of Dar es Salaam city comprises informal city (NBST, 2012). Due to the scarcity of land caused by unprecedented urban growth, large parts of informal

settlements are privately acquired. Unfortunately, the process of informal subdivision of land has no provisions or conceptions of how public and private spaces in the informal settlement was accommodated and function. Several scholars, including Mrema (2018), Hernandez-Garcia (2013), and Bawole (2009), demonstrate the existence of public spaces in informal settlements. However, the three authors do not explain their evolution or sustenance. This study was, among other things, look into the evolution of public spaces as a result of the process of private land sub-division in an informal setting. Second, the study intends to look into the quality of publicness, as well as its sustainability, ownership, and management.

As time passes by, due to a lack of political and institutional regulation framework or guidelines, many empty lands are invaded or built. Public spaces are vital in any neighborhood as they enhance the social dimension that is essential in promoting public life and livability for the users. If such spaces are on the verge of being extinct due to an unprecedented rate of urbanization, something has to be done to enhance, protect, and preserve them.

1.5 Objectives

1.5.1 General objective

To investigate the evolution process of public spaces and the significance of their degree of publicness in the informal settlements in order to acquire a better understanding to inform future public space formation.

1.5.2 Specific research objectives

- i.** To uncover the evolution of the existing public spaces in the informal settlement.
- ii.** To analyze the degree of publicness of public spaces in the informal settlements.
- iii.** To formulate policies for enhancing, maintaining, and protecting public spaces in the informal settlement.

1.6 Research questions

- i.** How do public spaces, in the informal settlements, evolve?
- ii.** To what extent are the public spaces in the informal settlements, public to the users of the spaces?
- iii.** How can public spaces be enhanced, sustained, and protected in the informal settlement?

1.7 Significance of the study

More than 150 years ago, Frederick Law Olmsted transformed how Americans perceive public spaces (Rich, 2016). Although he faced opposition from the civic leaders trying to dismiss his vision due to politics, bureaucracy, and greed in a triumph of private power, he was able to defend it, creating a movement, the "City Beautification Movement", that resonated all over the globe and through time (Rich, 2016). As a result of the above movement, the park that was once seen as a total waste of land is now valuable and necessary to develop, preserve and, if possible, to add more public spaces to make the city more livable (Ercan, 2007). Public spaces are the lungs of a city as they play a vital and wide range of roles, which can be classified as physical, ecological, psychological, social, political, economic, symbolic, and aesthetic roles (Ercan, 2007).

The subject of public space is often disregarded, yet the character and image of the city is defined by public spaces. That is why it features high on the agenda of global development as reflected in the Sustainable Development Goals (SDGs) goal 11 stating "make cities and human settlements inclusive, safe, resilient and sustainable" (Etafuleni, 2015). In 2008, over half of the world population lived in urban areas; this figure is projected to rise to 70 percent by 2050 (Un-Habitat, 2012). Africa and Asia would experience the fastest rate of urbanization and Africa's urban centers will host 61.8 percent of the continent's population (Un-Habitat, 2012). This implies that the number of informal settlements will

drastically grow, particularly in the rapidly growing cities such as Dar es Salaam, whose 70% of the built environment is occupied by informal settlements.

This study provides relevant facts to the urban designers and, in turn, the experts are able to draw lessons from the informal settlements to the formal existing theories and framework of establishing public spaces. Moreover, the study could deduce a method of establishment of public spaces that could be a little or completely different from the formally recognized one. Last but not least, the research suggests various ways to improve the publicness of public spaces so that they can adequately meet the social needs of society while also being well preserved.

1.8 Justification of the study

Improving the informal settlements and formalizing slums is currently Tanzania's development agenda that intends to "create a better life for all". As part of the government's initiative to achieve that, it has formulated a program known in its Kiswahili acronym as "MKURABITA", conceived in October 2004. This program deals with property and business formalization, which includes public spaces in informal settlements. The research is relevant to the ongoing formalization process because it is well informed about the evaluation of the quality of publicness in public spaces and strategies for upgrading, managing, and protecting them. Furthermore, the sustainability and upkeep of public spaces in an informal settlement cannot be properly addressed unless sufficient knowledge of how those spaces evolved and were owned is available. Notwithstanding, the role of public spaces in informal settlements cannot be underestimated, especially in the current urbanization trend and the pace of population growth.

1.9 Limitation of the study

The study focuses on investigating the evolution of public spaces from the land subdivision process and questioning the quality of publicness within the informal settlement. This study intends to unveil the

hidden knowledge about the evolution of public spaces that may cause the school of thought to revisit the known definitions of public spaces and draw a new lesson from the informal context on the ground. It advocates the need to create awareness of the importance of preserving public spaces and deducing a policy framework to protect their extinction against the pace of urbanization.

1.10 Scope of the study

The study spans and covers a full timeline of the life of public spaces as it investigates, beginning with the genesis of public space evolution during the land subdivision process, and moving forward to analyse the nature of publicness and the dynamics of their establishment, ownership, and control, then later strategizes how they can be sustained for future use. The study focussed on some selected informal settlements in Dar es Salaam as case studies to acquire the relevant information needed to achieve the general objective of the research.

1.11 Structure of the study

This dissertation is organized into five chapters. **Chapter One** presents the introductory part and the background of the study. It highlights the research issue, statement of the problem, research objectives, research questions, significance of the study, limitations of the study, and scope of the study. **Chapter Two** emphasizes the relevant literature addressing various concepts of public spaces, their evolution, clarification of the informal land subdivision, and the elaboration of the meta dimensions of publicness. **Chapter Three** comprehends the subject matter by clarifying the relevant theoretical and conceptual framework that was applied in the research. **Chapter Four** discloses and explains the relevant methods, techniques, and tools used in the data collection. It also describes the selected cases and highlights the rationale for the selection of the cases. **Chapter Five** presents the findings and discussions from the analyzed information gathered from the field study. This chapter creates an analysis platform, inquiring

whether the set research questions have been answered or not through data organization and interpretation based on the research questions and objectives. Lastly, **Chapter Six** concludes out of the research findings. This chapter portrays a summary of major deductions derived from analysis and highlights relevant recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Preface

This chapter relates the study to the available literature in order to enlighten the understanding of various concepts such as privacy, publicness, degree of publicness, and various definitions of public spaces from various scholars. Furthermore, this chapter contributes to the research on the evolution of public spaces and the process of land subdivision. Finally, this review is able to generate variables related to the specified research objectives and research questions.

2.2 Privacy

According to the American Heritage Dictionary (2011), privacy is defined as the state or condition of being isolated from society or public attention. Security, individuation, sense of belonging, and withdrawal from the outside world are all social qualities of private space (figure 1). (Vassilaki, P., Ekim, 2015 and Alboaie et al., 2015).

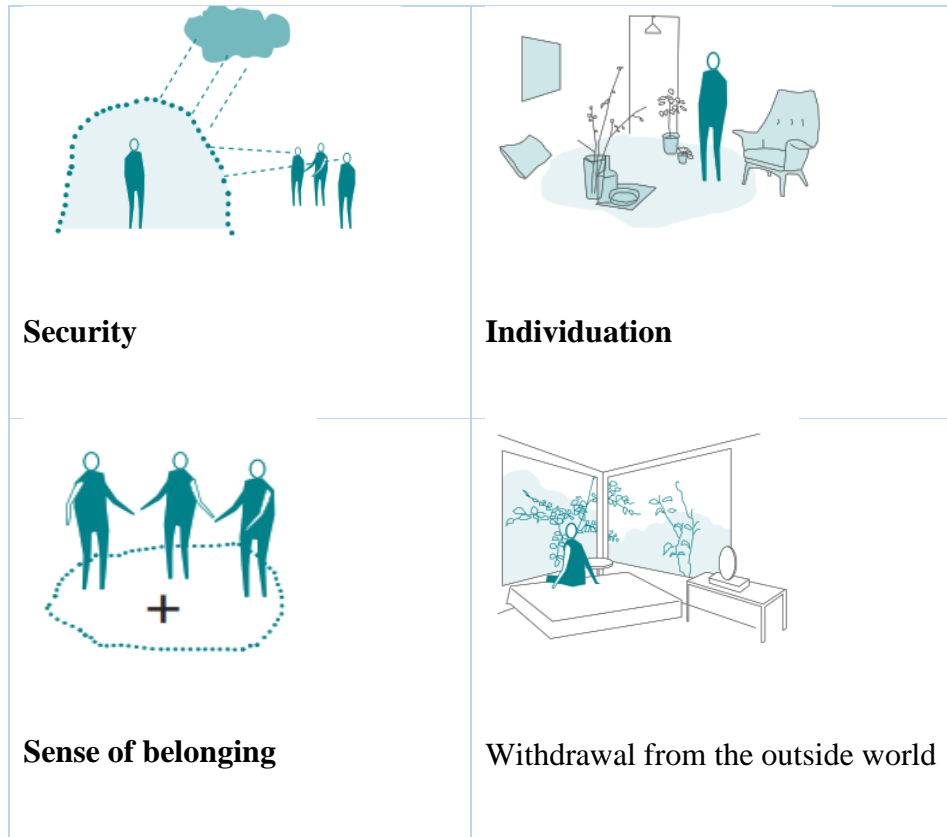


Figure 1: Social qualities of a private space (Source: (Vassilaki, P., Ekim, 2015))

2.3 The boundaries

The social space is partitioned into public and private spheres, which are demarcated by physical and symbolic borders (Madanipour, 2003). Borders are formed when private and public realms meet, defining and separating them while on the other end, joining them.

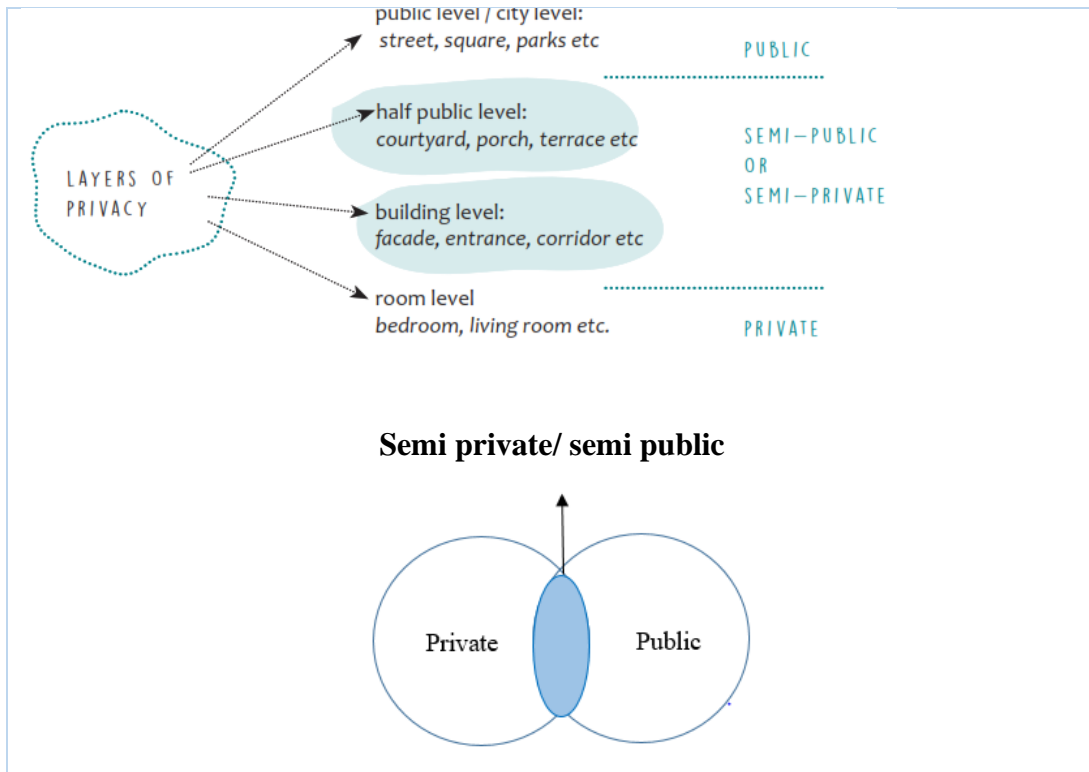


Figure 2: Diagram showing the boundaries of the public and private spheres (Source, (Vassilaki, P., Ekim, 2015))

Boundaries exhibit a semi-private and semipublic character (figure 2) and carry features from both the private and public sectors. The semi-private or semi-public zone is the transition zone between intimate human spaces and an exposed common zone (Vassilaki, P., Ekim, 2015). Depending on how the border is designed, this threshold can be closed, open, or filtered. Humans' social qualities vary according to their sense of privacy (figure 3), which brings different perspectives on how users perceive the space.

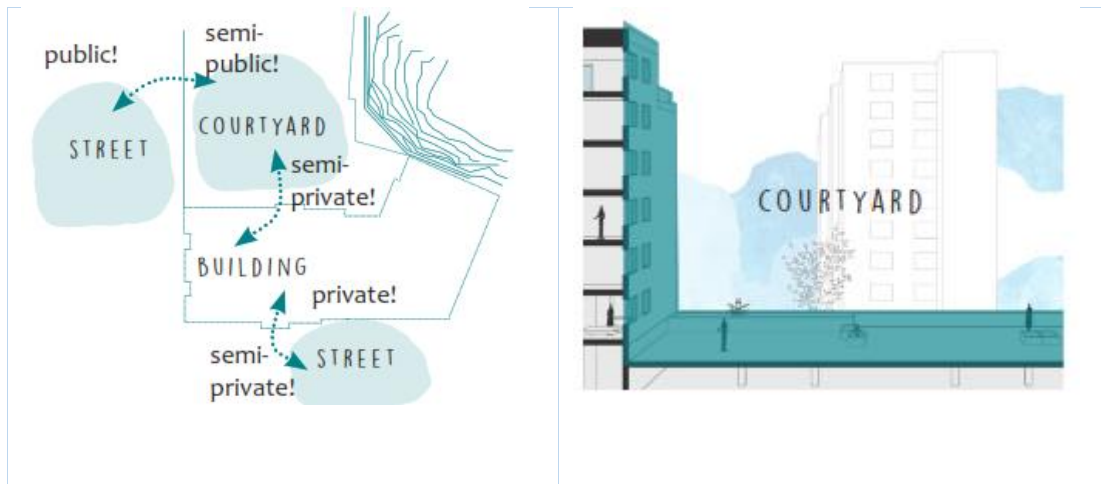


Figure 3: Diagram showing the various levels of privacy (Source: (Vassilaki, P., Ekim, 2015))

2.4 Public spaces

Public space is not precisely the opposite of private space. Various scholars have presented multidisciplinary perspectives on the fundamental understandings of the terms "public spaces" and "publicness" of space, causing confusion about the terms' meanings. Built public spaces are complex socio-cultural, environmental, and political products of a social group on a practical level. Individually, public space is a subjective personal construct as well (Varna, 2011). Literature has shown contributions for various scholars on their understanding and definitions of public spaces.

Brown defined public spaces as spaces that have accepted communal access or use rights, whether in public, private, communal, or unknown ownership; a common property resource (Brown, 2006). This means that, according to Brown, any space can be designated as a public space as long as the community has access to it and permission to use it. There may be a conditional situation in which the 'grant' is controlled by externalities such as permission from the government, community, or individual owner of the public space.

Kohn (2004) defined public space as a space that is owned by the government, accessible to everyone without restriction, and/or fosters communication and interaction (Magnusson, 2006). In other words, from that perspective, it's safe to say he doesn't believe in the possibility of public spaces in a settlement whose development is less influenced by the government. Furthermore, according to Kohn, the quality of providing free access to all is more important than the attribute of providing communication and interaction among users. Kohn establishes that public space is identified and defined by the government's free access to it.

Orum (2009) states that public spaces include all areas that are open and accessible to all members of the public in a society, in principle though not necessarily in practice (Orum et al., (2009). He recognizes the presence of some public spaces that are declared public on paper but on-field/ practice they aren't entirely public. This means that, apart from the allocation of public spaces in a master plan, the people dictate the perception and use of the public spaces.

Last but not least, Carmona (2008) explains public spaces as all those parts of the built and natural environment, public and private, internal and external, urban and rural, where the public has free, although not necessarily unrestricted access (Carmona et al., 2008). Carmona, like Brown, is aware that some spaces can be public but still have restricted access. He lists down a wide range of spaces that can be public spaces, including the internal and private spaces that are in most times neglected as public spaces contrary to the external spaces.

The three authors agree on one point: public spaces should be available to all members of society. However, unlike Kohn, (2004), Carmona (2008) and Orum (2009) acknowledge the possibility of some restrictions in some public spaces. Furthermore, unlike Carmona (2008) and Orum (2009), Kohn, (2004) specifically declared the government to be the owners of public spaces, in contrast to his fellow scholars

who were not as specific in their definitions. The results of the field, in terms of the nature of case studies chosen and the size of the sample space used, may influence such a school of thought. The study appears to be unable to agree on a single definition as the most appropriate. The study's goal, however, was to go a step further and uncover other specific characteristics that qualify a location to be called public. As a result, it was able to connect the application of generated knowledge to the nature of public spaces found in an informal context.

2.4 Types of urban spaces

A study was conducted by Kutay, (2015), on the evaluation of different space types in terms of publicness dimension. He was able to classify twenty urban space types (Table 1) from clearly private to clearly public space according to Carmona (2008) and Kutay (2015)

Table 1: Table showing the topology of urban spaces (Source: (Kutay, 2015))

Space type	Characteristics	Examples
‘Positive’ spaces		
Natural/semi-natural urban space	Natural and semi-natural features within urban areas	Rivers, natural features, seafronts, canals
Civic space	The traditional forms of urban space, open and available to all	Streets, squares, promenades
Public open space	Managed open space, typically green and available and open to all, even if temporally controlled	Parks, gardens, commons, urban forests, cemeteries
‘Negative’ spaces		
Movement space	Space dominated by largely motorized transportation	Main roads, motorways, railways, underpasses
Service space	Space dominated by modern	Car parks, service yards

servicing requirements needs

Leftover space	Space leftover after development	'SLOAP' (space left over after planning), Modernist open space
Undefined space	Undeveloped space, either abandoned or awaiting redevelopment	Redevelopment space, abandoned space, transient space
Ambiguous spaces		
Interchange space	Transport stops and interchanges, whether internal or external	Metros, bus interchanges, railway stations, bus/tram stops
Public 'private' space	Seemingly public external space, in fact, privately owned	Privately-owned 'civic' space, business parks, church grounds
Conspicuous spaces	Public spaces designed to make strangers feel conspicuous and, potentially unwelcome	Cul-de-sacs, dummy gated enclaves
Internalized 'public' space	Formally public and external uses, internalized and, often, privatized	Shopping/leisure malls, introspective mega structures
Retail space	Privately owned but publicly accessible exchange spaces	Shops, covered markets, petrol stations
Third place spaces	Semi-public meeting and social places, public and private	Cafes, restaurants, libraries, town halls, religious buildings
Private 'public' space	Publicly owned, but functionally and user determined spaces	Institutional grounds, housing estates, university campuses
Visible private space	Physically private, but visually public space	Front gardens, allotments, gated squares
Interface spaces	Physically demarked but publicly accessible interfaces between public and private space	Street cafes, private pavement space

User selecting spaces	Spaces for selected groups, determined (and sometimes controlled) by age or activity	Skate parks, playgrounds, sports fields/grounds/courses
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Private spaces

Private open space	Physically private open space	Urban agricultural remnants, private woodlands,
External private space	Physically private spaces, grounds, and gardens	Gated streets/enclaves, private gardens, private sports clubs, parking courts
Internal private space	Private or business space	Offices, houses, etc.

A detailed site observation method was applied in this study (table1). Twenty urban space types (Table 1) from clearly public to clearly private space that are classified by Carmona (2008b) have been used for the illustrations based on on-site observation of the Duzce city. By way of illustration, and based on detailed on-site observation of Duzce city center, distribution of space types from place to place was demonstrated. The same typology of urban spaces has been applied in this study. It involved a keen observation of the informal settlements selected by the study to determine what type of urban spaces among the twenty urban spaces (table 1) are found in the informal settlements.

There is a close relationship between the terms ‘open spaces’ and ‘public spaces’. Open spaces are any open pieces of land that are undeveloped (have no buildings or any built structures) (Grobelsšek, 2015). Open spaces can include vacant lots, school playgrounds, public seating areas, and green spaces such as community gardens, cemeteries, and parks. Open spaces can either be public or private hence not all open spaces are public spaces. An open space that is public is known as a public open space.

6.5.1 The evolution of public spaces

The origin of public spaces dates back to the era of antiquity as it evolves towards modern times. The form and functions of most public spaces today are deep-rooted in the ancient European civilizations. While the Greeks dwelled into the aesthetic qualities of space to beautify the soul and exalt the mind (fig 4), Imperial Rome (fig 4) recognized that the design of space could have controlling influences on the population, and imperial and totalitarian regimes throughout history have used this principle (Carmona et al., 2008).

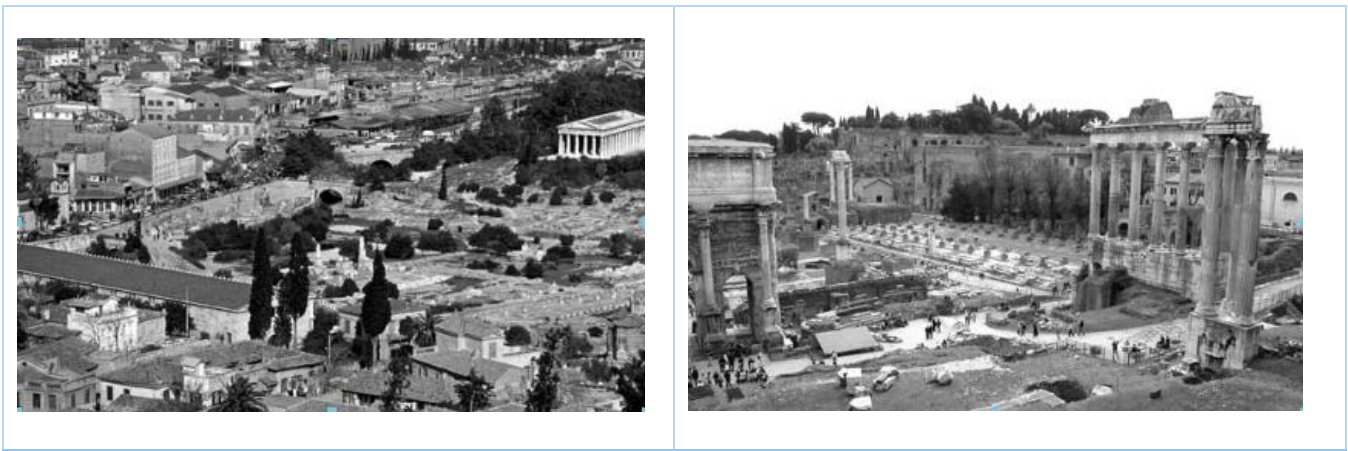


Figure 4: Agora in Athens (Source: (Carmona et al., 2008)) (left) and a forum in Rome (Source: (Carmona et al., 2008)) (right) (Ben-Joseph, 1999).

Currently, in the postmodern world, there is a return of a certain nature of traditional urban space that has the potential to house a variety of complementary economic, social, and physical characteristics with more emphasis on the increase in the degree of human interaction. The eligible physical container is greatly vouch for the increase in the potential for a liveable environment to be created and sustained. Several authors consent with the idea of a public space being both connective tissue and a social setting (figure 5) (Jacobs, 1962). Throughout the second half of the twentieth century, the provision of public spaces was

guided by the promotion of public health and planning standards specifying land-use zoning, density thresholds, and space between buildings (Carmona et al., 2008). Such planning principles have resonated in other parts of the world including most cities in developing countries such as the Garden city movement influencing the development of some suburbs in Capetown.



Figure 5: Connective tissue and a social setting. (Source: Carmona, 2008)

I. Land subdivision

Land subdivision involves the division of land into lots or plots for sale and development (Agheyisi, 2018). Since the early 20th century, land subdivision regulations are formulated as important urban planning tools for land use control and as guidance to the growth of cities (Agheyisi, 2018). They outline standards for lot sizes and layouts, street patterns, and procedures for assigning land for private and public uses. However, they have been less effective in developing countries due to the poor implementation of subdivision regulations (Agheyisi, 2018). This tendency has assisted in giving rise to informal land subdivision and associated informal settlements in many African cities.

Formal land Subdivision is the division of a parcel of land through the use of an agreement, survey plan, subdivision plan, or any other instrument transferring or creating an estate or interest in a portion of the parcel. (Agheyisi, 2018).

II. Informal land subdivision

Informal land subdivision occurs when landowners subdivide and sell their plots in violation of government subdivision regulations, according to Angel (1993). Because the goal of their development is to maximize occupation, land use, and profit, they frequently have little or no regard for the provision of public amenities and land for public use.

Adoption of formal planning standards is frequently difficult in informal land subdivisions. This is why residents in informal settlements adapt their planning standards (unwritten customs) through community-agreed standards (Agheyisi, 2018). Magigi (2004) discovered this in his study of local community participation in land development in the informal settlement of Ubungo Darajani in Dar es Salaam, Tanzania. (Magigi, 2006). These observed facts influenced the study of informal planning standards in two Tanzanian informal settlements: Ubungo Darajani and Ibungilo, located in the cities of Dar es Salaam and Mwanza, respectively. (Magigi, 2006).

The study revealed that the smallest plot size (12-meter square) does not obey the national planning plot standard which is 400-meter square, although permitted by the local government (Agheyisi, 2018).

The communities' agreed planning standards, approved by the municipal and local governments include the provision of commercial and residential areas, right-of-ways and roads, plot ratio and minimum plot coverage, setbacks, and building lines (Agheyisi, 2018).

In the ownership, transfer, conversion, and development of urban land, informal land subdivision involves specific processes, procedures, and a large number of non-state actors (figure 6). (Dinye, 2003). The buyer or seeker of land will approach the seller of land directly, or if he does not know any land in the market, he will consult an informal agent and inform him or her of his interest in purchasing land. The agent will put him in touch with the seller to negotiate a price. Following that, the buyer and seller will involve the neighborhood's ten-cell leader and adjoining landowners in verifying the boundaries and confirming the seller's ownership rights. Further to the verification, the selling agreement and payment are signed in the presence of friends of the transacting parties as witnesses. The buyer can now begin development of the land.

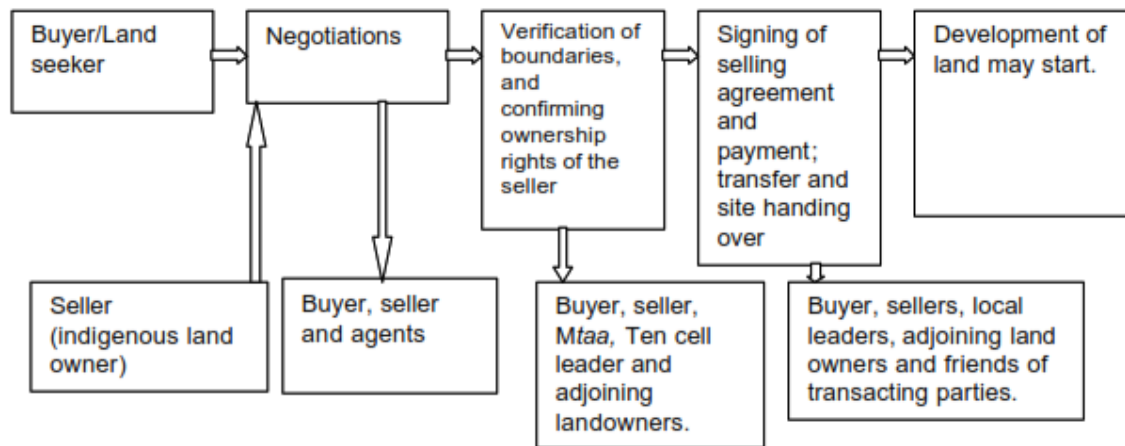


Figure 6: Land transaction processes and actors involved (Source: (Kombe et al., 2001))

The aforementioned processes (figure 6) were documented in Kombe et al., (2001) study of informal land management in the settlements of Chang'ombe in Dodoma Municipality and Kihonda in Morogoro City. They have been discovered to resonate in a number of other informal settlements in Dar and other African cities. The number of land buyers obtaining land is increasing as the demand for and value of land rises. During the interviews in Kironda and Chang'ombe, the majority of residents stated that they prefer the

area because the land is less expensive than in planned areas, it is easily accessible, and the bureaucracy associated with formal plot acquisition is absent (Kombe et al., 2001). In most cases, it has been observed that initially the former village landowners subdivide and allocate it to their children who later on subdivide it further and give it to their next of kin or sell it to other people (Kombe et al., 2001).

6.5.4 The nature of publicness

The publicness of a place can be comprehended using two approaches; the deductive approach and the inductive approach (Varna, 2011). The deductive approach employs socially constructed perception from people's minds as a result of interpersonal interaction. According to this approach, if people believe it is a public place, it is a public place, regardless of how the public is regarded in terms of physical setting, rights, ownership, and so on (Madanipour, 2003). This approach, however, is not entirely reliable because a unitary public realm cannot exist because a place can be public to Citizen A but not to Citizen B. It is safe to say that the publicness of any location can be measured in terms of being "more public for more publics." The inductive approach, on the other hand, includes a review of literature from various disciplines in search of common and major themes central to the definition of what makes a place (more) public.

North American writers such as Kohn (2004) and Staeheli and Mitchell (2008) recognized ownership as a critical component for a place's publicness. Instead of retaining public ownership, privatization of urban space has posed a significant threat and damage to the public realm of cities. The physical configuration of public spaces includes both real urban places such as roads and streets, as well as formal squares and vacant lands. The use of public spaces, including ritual and functional activities that bind the community, whether in periodic festivities or daily life routines, is referred to as animation. Public spaces have the characteristic of being governed by control without compromising freedom, which is essential for

publicness (Mitchell, 2003). Surveillance and control measures in public places, on the other hand, are increasing (Atkinson, 2003). Finally, civility in public space maintenance ensures that they are clean, inviting, and friendly areas (Tibbalds, 2012).

6.5.5 The theoretical star model of publicness

The study of publicness of public spaces can be defined using five common themes in the theoretical Star Model of publicness (figure 7) (Varna, 2011). This model can be used as a standard or theoretical framework against which the publicness of a public space can be measured. The distinction among the themes has the main purpose of comprehending how the publicness of public space is built.

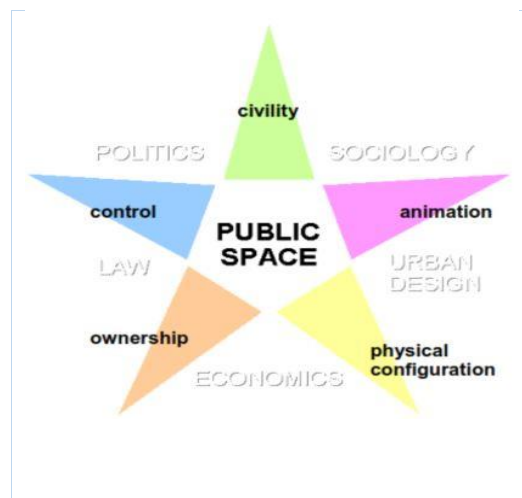


Figure 7: The theoretical star model of Publicness (Source: (Varna, 2011))

I. Ownership

The concept of ownership, which dictates the division of the human environment into private and public spaces, is the first fundamental attribute of public space. Madanipour defines ownership as the legal right to control a piece of property (Madanipour, 2003). According to Varna (2011), a public place is deemed to be the most public when it is owned by the government or any democratically elected political body

that allows people to actively participate in public life without restrictions (Varna, 2011). People from different backgrounds can assign different meanings to a particular place. In informal settlements, for example, a street road can be used as a trading ground for adults during the day and a playground for children at night. According to Mitchel (1995), such spaces used by strangers and residents are neutral spaces that serve as good examples of public spaces. As a result, ownership can change from time to time. The moment people stop being active, becoming more of a 'witness' rather than a 'audience,' a shift in publicness occurs.

On several occasions, the degree of publicness varies (figure 8). For example, most privately-owned territory that is open to the public, such as saloons and restaurants, is "less" public, whereas territory owned by the government that is open to the public is the most public of public space (Lofland, 2017). There are intermediate situations in which ownership is bestowed in a public-private partnership and a public function exists (Varna, 2011). For instance, in informal settlements, institutional spaces such as churches, mosques, and schools dedicate a portion of their land to public use, even if the public would need permission from the authority for a specific activity to take place.



Figure 8: Degree of publicness according to ownership (Source, (Varna, 2011))

II. Physical configuration

It includes the specific geographical location of public places as well as their design features. The relationship between the place's macro-design (concerning the entire neighborhood) and its micro-design can be investigated (detailed design features of the place itself) (Varna, 2011).

In terms of macro design, every public space is a part of a larger urban entity, so its demarcations, connections, and location all play a role in influencing its publicness (Hillier B., 1998) . Three key qualities have to be considered; centrality and connectivity, visual access and thresholds, and gateways.

Places with centrality and connectivity within an urban movement pattern have a greater potential for bringing together different special groups in space and time. Due to the obvious organic urban fabric of informal settlements, which has increased connectivity of spaces within the settlement, they have a greater potential for facilitating public life. Because of their centrality, informal settlement junctions are observed to be the most vibrant. Visual access, or the ability to see into a place, can be influenced by the city's morphology, which can make places visually inclusive or exclusive. Thresholds determine whether or not a location can be physically accessible to the public, regardless of whether or not it can be seen through the use of physical barriers. The majority of informal settlements have no or only a few physical boundaries. As a result, visual access between spaces is not an issue, making most spaces exposed and ideal for public life.

Micro-design, on the other hand, is a specific design of places that supports the various needs of users in public space. Since this physical and social context varies from place to place, each public space has its own personality and identity. In the case of informal settlements, while they vary in character and identity around the world, the majority of them have a cultural dominance of extroverts influenced by the compact

urban form. A public space's micro design entails providing opportunities for sitting and walking, as well as a visually stimulating physical object (Varna, 2011). For example, most road camps, or “*vijiwe*”, began in most informal settlements, but the presence of seats where people sat and played games or discussed under a tree acts as an interesting physical object that stimulates view and engagement. As a result, the availability of elements from the previously elaborated macro and micro levels influences the degree of publicness according to the physical configuration.

III. Animation

Public space is also an anthropological and social construct in which people coexist with other members of society, sharing experiences that connect them to previous and future generations. The practical manifestation of human needs in public places to the actual use of a place is referred to as animation. Carr (1992) identified the following human needs in public space: relaxation, comfort, active engagement, passive engagement, and discovery (Tiesdell et al., 2020). The majority of people who use public spaces in informal settlements do so to play games, drink coffee, and hold discussions, public meetings, parties, and ceremonies, while children use them as playgrounds. To assess a public place's publicness in terms of animation, one must investigate how and by whom it is used. Is it a desolate wasteland or a bustling hub of public life?

In terms of animation, the degree of publicness is the presence of a wide range of users engaged in a wide range of activities. The greater the number, the greater the possibility of a rich and vibrant public life. It is not the physical design or ownership status of a space that makes it more public, but whether it is actively shared and used by various groups and individuals (Schneider, 1987). Although the concept of diversity of activities is rarely observed in most informal settlements' public spaces, the presence and

engagement of users in a specific activity taking place is sufficient for a place to be perceived public by individuals.

The 'more public' situation is where the nature of the public space encourages and supports use (active and passive engagement), display, and discovery (Varna, 2011). The 'less public' scenario, on the other hand, is one in which the public space restricts or discourages use; it is a dead public space. It should be noted, however, that the public places discussed here are those intended for the general public rather than a specific group, such as children's playground tennis courts or skate parks.

IV. Control

Control refers to the various actions taken to limit individual freedom when they are present in a public space and can also be taken as part of the management of public places (Varna, 2011). It is critical to examine and investigate the control measures that have been put in place and how they affect the overall publicness of a site. A more public case relates to freedom through the absence of a clear control presence, such as the presence of any form of control (CCTV or police), allowing people to survey each other, as described by Jane Row et al., (1962) in 'The Death and Life of Great American Cities'. This has been observed in most informal settlements, where the majority of spaces are connected and in close proximity to one another, allowing for natural surveillance.

The 'more public' situation, on the other hand, refers to freedom due to the absence of an explicit control presence. Intermediate scenarios are defined as 'passive' or 'soft' control with some 'symbolic' constraints (Ben-Joseph, 1999). It entails passively discouraging undesirable activities and not providing certain amenities, such as public restrooms. The 'less public' situation is when surveillance cameras, guards, or gates are used to gain complete control of the public space.

V. Civility

The final theme in the theoretical star model is civility, which is less obvious than the others but equally important. Maintaining and caring for public spaces is an example of civility. The care and love of the citizens who work and live in the area creates and maintains a beautiful environment and an appealing public realm (Tibbalds, 2012). Neglect by residents and public officials reduces the value of life in the neighborhood, contributing to a negative image of the area and reducing the chances of economic and social improvement (Madanipour, 2003). Moreover, civility involves the respect and awareness of other people's use of space while one freely carries out activities that he or she desires (Banister et al., 2006). For instance, in neutral spaces like roads or streets, a petty trader can encroach a space along the road, demarcate and personalize it without being invaded by another petty trader in the future.

As civility is all about achieving a welcoming and positive environment that appears to be scared for (Varna, 2011), its more public scenario involves a public space possessing managerial features like clear rules and regulations to exclude anti-social behavior, spatial and temporal regulations. When a public space is either 'undermanaged' or 'over managed,' its civility can make it less public (Carmona et al., 2008). Maintenance and upkeep of spaces in informal settlements can be handled individually or collectively depending on the owner and users of a particular space, and sometimes it depends on an agreement between the owner and users.

In sum, the majority of the literature on public space is focused on formally evolved public spaces whose process is guided by regulation, standards, and planning principles. Although the majority of the literature is based on case studies from Western cities with more formal values, culture, and way of life, many of the factors mentioned in these concepts are related to informal settlements. But since approximately 70%

- 80% of urbanites in Dar es Salaam live in informal settlements, these informal settlements will continue to grow in proportion to the expansion of cities.

As reflected in MDG 11, there is a need to properly and scientifically investigate the process of evolution of public spaces and their sustainability in order to develop strategies to protect and improve their spatial qualities. There is also a need to weigh the perception of publicness of spaces in informal settlements rather than relying on a western understanding of the same.

CHAPTER THREE

3.0 THEORETICAL AND CONCEPTUAL FRAMEWORK OF THE STUDY

3.1 Introductory note

This chapter contains the necessary theoretical and conceptual framework to produce a thorough understanding of the subject matter. To substantiate the study's validity, the theoretical framework generates a base of comparison between the existing stock of knowledge and the conducted research (Swanson, 2014) . The conceptual framework serves as the foundation for a smooth data collection process, analysis, and interpretation of the findings in relation to the variables/themes generated by the conceptualization process (Jozkowski, 2017).

This section highlights the various public space theories that are relevant in informing the study on the nature of publicness in public spaces. Furthermore, this section examines the various models used to assess the degree of publicness of public spaces before selecting the appropriate model to be used in the analysis of data collected in the field.

3.2 Theories of public spaces

Many urban scholars have researched and developed various theories about public spaces and their publicness. The sociality of public spaces is one of the most important dimensions of public spaces. People's feelings and emotions toward space are portrayed by sociality, and when people feel a sense of inclusion toward space, they tend to use it for a longer period of time and more frequently (Jagannath, 2018). Jan Gehl and Jane Jacobs advocate for the sociality of space. The character of public space, the physical structures present in the space, and the people who surround it can all have an impact on how space is perceived and used (Jagannath, 2018).

Doreen Massey's theory of thrown-togetherness, in which she claims that the physical structure of the space, as well as the various elements and structures present in the public space, have an impact on how people use it, provides a good understanding of sociality (Kohan et al., 2015). Similarly, Jane Jacob's concept of eyes on the street is part of sociality because it raises people's awareness of their surroundings, particularly in public spaces, resulting in a better understanding of the space. Overall, one of the major things that was observed in the field is sociality, and how public spaces achieve it.

Concerning the security of public spaces, Whyte (1988) and Jacobs (1993) have addressed it in one of their basic theories. People should feel secure in public space despite being among strangers (Jagannath, 2018). For instance, in Jane Jacobs's theory of "eyes on the street", a natural surveillance system is created. The possibility of more people being in a public space suggests fewer chances of crime happening in the space. Although crime can still take place in a crowded area, Jane Jacobs claims it's less likely when people are watching and this might be valid (Jacobs, 1962). Whyte adds that it was a "threat to urban civility" when fewer people are present in public spaces. As a result, urban scholars emphasize achieving vibrancy in public spaces as a means of providing not only sociality but also security in public spaces. This is seen in informal settlements, where most of the spaces are vibrant due to their close proximity and richness of public life and social activities, thereby strengthening the natural surveillance of the spaces.

Jahn Gehl developed a theory about the necessity of public spaces taking into account all five human senses (Beatriz Campos, 2012). He suggests that public space should be able to provide opportunities for daily activities and meetings that allow one to be seen and heard, to hear and see others, or to experience other people functioning in various situations (Beatriz Campos, 2012). He discusses how the presence of constant interaction makes people feel secure because they are surrounded by other people, but it also

brings a sense of comfort and attraction to sit in a public space surrounded by other people (Gehl et al., 2013).

3.3 Conceptual and operational framework

The publicness of a place can be researched in two ways; through inductive (critical realist) approach or deductive (interpretive) approaches (Varna, 2011).

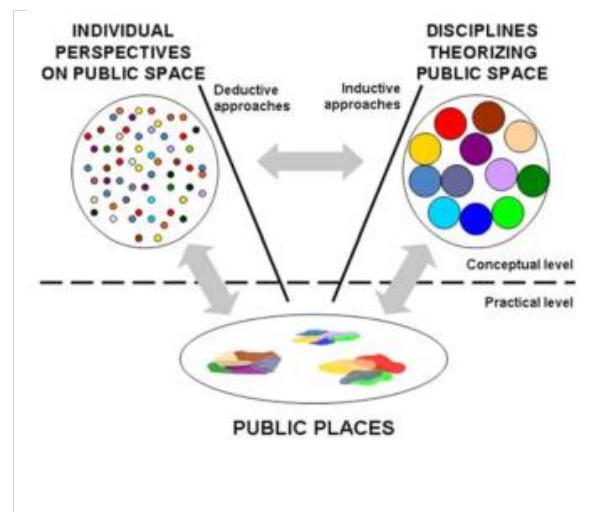


Figure 9: Deductive and inductive approaches to the publicness of space (Source: (Varna, 2011))

Deductive approaches investigate the different socially constructed perceptions of public space experienced by social groups and individuals (left-hand side of fig 9) (Varna, 2011). This approach depends entirely on the eye of the beholder in the sense that if people think it's a public place, then it is, ignoring other aspects like physical setting, ownership, rights, etc. Some prominent vibrant places in informal settlements that harbour public life, are even given names and identified as public spaces by the community. The downside of this approach is that it is very difficult in generalizing across places (Varna, 2011). A place that is public for A may not be public for B. On the contrary, the inductive approach analyses the literature from a different school of thought seeking common ground to a definition of what

makes a place (more) public. This study has decided to employ the inductive approach as a means of critically assessing the publicness of the public spaces in the informal settlement.

Most research studies done on the publicness of public spaces in informal settlements in Dar es Salaam, tend to only describe publicness but seldom does it wholly conceptualize neither does it present tools to analyse its depths. Public space should be treated as a multi-dimensional cluster concept (Kohn, 2004). Any efforts to conceptualize publicness must involve several interconnected definitions to avoid the tendency of reducing the concept to one continuum (Schmidt et al., 2010). This section explores the ranges of various dimensions of publicness and finally develop a model that was used in the assessment of publicness of the public spaces.

3.3.1 Selection of the model for analysis

There have been at least two prior attempts to provide analytic tools to assess a place's publicness with the help of readily understood pictorial representations; the tri-axial (Schmidt et al., 2010) model and the cobweb diagram (Van Melik et al., 2007). Each of these models has significantly contributed to the development of the Star Model of which this study selected to be the relevant model for the analysis of publicness.

3.3.2 The Star Model

The Star model has five axes each conforming to the five Meta dimensions of publicness. The axes of this model can be pulled towards a common core, regarded as 'less public' (figure.11) or the limbs of the star can be stretched out, regarded as 'more public' (figure 10) (Varna, 2011). A complete star signifies a high state of publicness whereas a worn-out star symbolizes a weakened publicness.

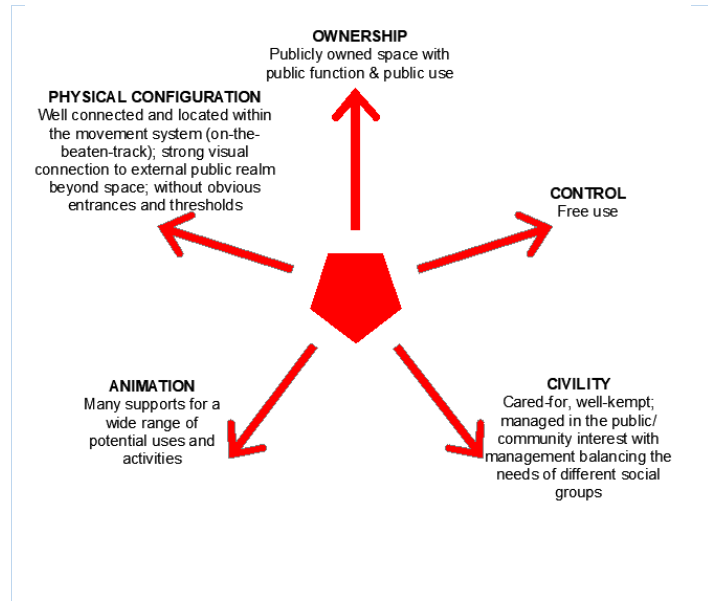


Figure 10: Typical qualities of ‘more public’ places. (Source: (Varna, 2011))

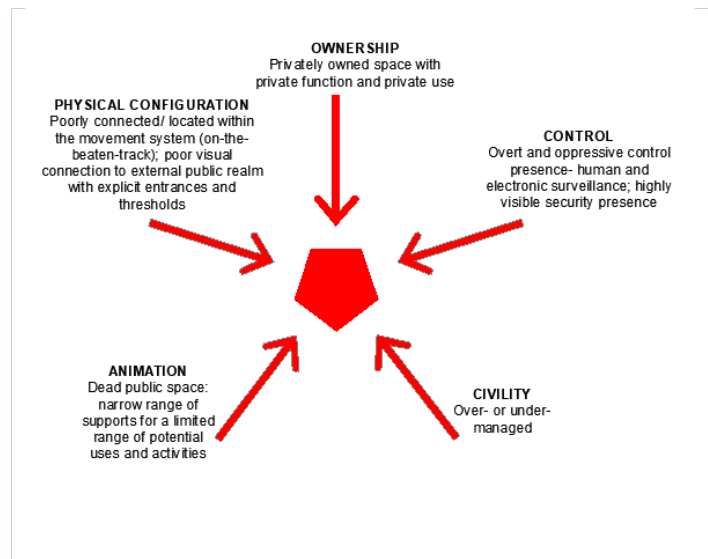


Figure 11: Typical qualities of ‘less public’ places. (Source: (Varna, 2011))

The star model works by using three tasks; identifying suitable indicators for each meta dimension, marking them with standard scales, and then combining those indicators into a single score for each meta dimension (Table 2) (Varna, 2011).

Table 2: Indicators of publicness for each Meta dimension (Source: (Varna, 2011))

	<div style="display: flex; justify-content: space-between; align-items: center;"> More Public ← → Less Public </div>				
	5	4	3	2	1
OWNERSHIP					
Ownership	Public	-	Public-private partnership	-	Private
CONTROL					
Control ordinance	Any rules and regulations that exist are enacted in the wider community interest.	-	-	-	Specific rules and regulations are enacted in a narrower private interest.
Control presence	No visible/ control presence/ Guards	-	A subtle expression of control presence.	-	Highly visible expression of control presence.
CIVILITY					
Physical maintenance and cleansing regime	Cared for; well-kempt; proactive maintenance practices Provision of facilities for basic needs e.g. toilets, food vendors, seats, lighting.	-	Caretaking staff	-	-
Physical provision of facilities	-	-	-	-	Lacking basic amenities and facilities.
PHYSICAL CONFIGURATION					
Centrality and connectedness	Well-connected within the urban morphology and through space	-	-	-	Poorly connected within the urban morphology and through space
Visual permeability	Strong visual connection with the public realm.	-	-	-	-

Thresholds and gateways	Implicit thresholds and entry points	-	-	-	Weak visual connection with the public realm.
		-	No active constraints on access.	-	Explicit thresholds and entry points
ANIMATION					
Opportunities for passive engagement	Multiple opportunities for passive engagement	-	-	-	Fewer opportunities for passive engagement
Opportunities for active engagement	Facilitate social interaction, diversity of events, and activities.	-	-	-	Few events and activities occurring either spontaneously or programmed

The aim was to provide a sufficient set of indicators to describe clearly the place's publicness for that specific dimension. For every indicator, a grading system from 1 (least public) to 5 (most public) was associated with correspondence with qualitative descriptors. The public space was assessed based on on-site visits and assigned ratings. A star chart was developed by plotting all five dimensions for the particular public space. Henceforth the complete analysis was a pictorial representation of a place's publicness. This method of representation will be useful for comparative purposes and further research.

CHAPTER FOUR

4.0 RESEARCH METHODOLOGY

4.1 Preamble

This study is a qualitative research that aims to analyze the various ways in which public spaces emerge as a result of the informal land subdivision process and to question their extent of publicness. Research methodology elaborates on the procedure and skills that will be used to achieve the research objectives and to successfully answer the research questions. It entails a research design that creates a strategy for logically and coherently integrating different components of the study in order to effectively address the research problem. Conclusively, it illustrates the study's road map, which includes the research strategy, research design, case selection, data collection methods, tool of analysis, validity, and reliability, as well as challenges encountered during data collection.

4.2 Research design and strategy

Due to the nature of this study, several cases were relevant because it involved an investigation into the real-life context of an informal settlement. It was based on careful and complete observation of a social unit (public spaces). Using this qualitative analysis, a researcher needed to socialize with the residents of the areas in order to fully understand the evolution of public spaces and the dynamics of their establishment, ownership, and maintenance. Simultaneously, it demanded the triangulation of information gathered through observation of the nature of public spaces in informal settlements with current literature on the five themes of publicness, using them to question the degree of publicness of the public spaces.

The major selection criteria that compelled the use of the case strategy in this study were the nature of research questions (descriptive and exploratory questions) and the collection of data in natural contemporary settings disregarding the use of derived or historical data. This research was inclined to use

the five themes of the theoretical star model of publicness to examine the attributes of such public spaces and analyze their degree of publicness. Some themes like physical configuration and animation were studied by observation whereas other themes were investigated by using in-depth interviews with residents and key informants. Furthermore, the evolution of public spaces from the informal land subdivision process and the dynamics of the establishment, ownership, and maintenance of the public spaces were investigated through in-depth interviews with the residents, key informants, and the local authority of the informal settlement.

4.3 Selection of the case study area

To identify cases, it is best to look for cases that can most likely inform the study. Prior to selecting the case study areas, it was necessary to be familiar with the typical informal settlement growth pattern (Table 3), which guided the study in selecting the informal settlements to be thorough in informing the study about the possibilities of the phenomenon occurring.

Table 3 shows that Dar es Salaam has the highest proportion of its population living in informal areas when compared to other urban areas. As a result, the selected case was the city of Dar es Salaam, Tanzania's largest city, from which further sub-cases were chosen from.

Table 3: Extent of informal settlements in major urban areas in Tanzania (Source: (Kalugila, 2014)

Urban center	Year of study	Estimated urban	Population in the	Percentage of the urban
Dar es salaam	2002	2,497,800	1,696,500	68
Arusha	1992	113,019	76,332	86
Mbeya	1998	300,00	239,22	80
Tabora	1996	112,602	92,175	82
Dodoma	1994	94,050	42,001	45
Iringa	1998	121,600	60,000	49
Tanga	1992	149,934	57,703	38
Morogoro	1996	144,603	63,000	44
Mwanza	1998	369,200	213,646	74

Table 4: Typical informal settlements growth pattern showing stages in which the densification process takes place (Source: (Nguluma, 2003))

Infancy stage



Manzese, 1967 (Edited, Author, 2021)

Land development in the periphery. This is the starting stage. Predominantly agriculture or bushland, scattered houses mostly owned by indigenous land occupiers but where land is increasingly being cleared by non-settlers and landlords for non-subsistence farming activities.

Consolidated stage



Manzese, 1975 (Edited: Author, 2021)

This is a “booming stage”. An area where land-use intensification (densities), as well as changes of use from agriculture to a residential area, are rampant.

Gradual displacement of the indigenous (often poor) by immigrants from the inner city.

Saturated stage



Manzese, 1987 (Edited: Author, 2021)

This is often the development in the inner part of informal areas where land markets have heated up.

Intensification through extensions, infill, and gentrification

Hypothetically, the occurrence of evolution and degree of publicness of the public spaces in an informal settlement at a saturated stage could be different from those public spaces found in informal settlements at infancy or consolidated stage (refer Table 4). Henceforth, based on that argument, four informal settlements namely Keko Machungwa, Hanna Nassif, Makongo, and Kunduchi Pwani were picked from the list of informal settlements in Dar es Salaam (table 5) to be case study areas.

Table 5: Stages of informal settlement growth in Dar es Salaam (Source ((Kalugila, 2014)).

No	Settlement	Infancy Stage	Booming Stage	Saturation Stage
1	Manzese Tandale			X
2	Mwananyamala Mbuyuni			X
3	Mwananyamala Kopa,Kinondoni “A”			X
4	Mwananyamala Kisiwani			X
5	Kinondoni Shamba			X
6	Hanna Nassif			X
7	Mikoroshini			X
8	Mlalakuwa/Survey			X
9	Kawe			X
10	Mikocheni			X
11	Namanga			X
12	Makongo		X	
13	Kimara		X	
14	Ubungo Kibangu		X	
15	Ubungo Kisiwani			X
16	Mabibo			X
17	Mabibo External		X	
18	Magomeni Makuti			X
19	Mburahati			X
20	Ubungo Msewe			X
21	Kunduchi Mtongani		X	
22	Tegeta/Wazo Hill		X	
23	Changanyikeni		X	
24	Kijitonyama/Ali Maua			X
25	Mbezi Luis/Kibamba	X		
26	Temeke			X
27	Tandika			X

28	Yombo Vituka/Dovya	X	
29	Yombo Kilakala		X
30	Mbagala Kuu		X
31	Mbagala KirubugwaNzasa	X	
32	Mbagala Kibondemaji	X	
33	Mbagala Rangi Tatu	X	
34	Shimo la Udongo/Kurasini		X
35	Mtoni Kijichi	X	
36	Chang"ombe		X
37	Keko		X
38	Kigamboni Midizini		X
39	Tuamoyo		X
40	Tungi	X	
41	Mtoni		X
42	Buguruni		X
43	Vingunguti		X
44	Kiwalani		X
45	Kigogo		X
46	Ilala Mchikichini		X
47	Tabata Mtambani, Relini		X
48	Tabata Kimanga	X	
49	Kipunguni	X	
50	Ukonga	X	
51	Gongo la Mboto	X	
52	Majumba Sita,Sitakishari	X	
53	Kipawa		X
54	Karakata	X	

From numerous informal settlements in the city, Hanna Nassif and Keko Machungwa were selected because they are among the saturated informal settlements, the oldest densely compacted, located very close to the city centre (Sheuya, 2004). Densification can be looked at from two standpoints; the growth of population and the number of houses within the settlements or the increase in several informal settlements (Nguluma, 2003). Focusing on the perspective of the growth of population and increase in the

number of houses, it directly contributes to the informal land subdivision and the public spaces that evolve from it.

Housing densities in Hanna Nassif are over 40 houses per hectare (Kombe et al., 2001) whereas in Keko Machungwa it ranges between 40 and 50 houses per hectare (Nguluma, 2003) hence making them relevant case studies for the evolution of public spaces and assessment of their publicness. Similarly, for Makongo and Kunduchi Pwani whose house densities are 2.5 houses per hectare (Kalugila, 2014), represent areas that are not yet saturated but at a thriving stage; thus giving opportunities for more plot subdivisions, house alterations, encroachment, and evolution of public areas.

4.4 Background description of the case study areas

4.4.1 Hanna Nassif, Dar es Salaam

Hanna Nassif is an informal settlement, in Dar es salaam that is located about four kilometers from the city center (Nguluma, 2003). The ward, occupying an area of approximately 50 hectares, had a population of 32,023 people in 2002 (United Republic of Tanzania, 2002).

The settlement used to be a coconut plantation of a Greek woman named Hanna (Nguluma, 2003). After independence, Hanna handed it over to Nassif before heading back to her homeland. In 1965, the ex-workers of the plantation, with the authorization from Nassif, distributed the land amongst themselves into farm plots and then continued dividing and selling the area up until now leading to its densification (Nguluma, 2003).

Hanna Nassif is an upgraded settlement that is mainly dominated by commercial and residential activities (Makoba, 2016). Currently, its land and property values are high due to the fairly improved and conducive living environment (Nguluma, 2003). Eventually, it has become a target for people searching for rental

accommodation hence various house transformations and land subdivisions are taking place to meet the demand. Below is the diagram (figure 12) that shows the selection of the sample space that was used for study within the Hanna Nassif settlement due to the availability of abundant potential public spaces determined by the field survey.



Figure 12: The selection of the sample space for study within the Hanna Nassif settlement. (Source: Google earth map, 2020)

4.4.2 Keko Machungwa, Dar es Salaam

Keko Machungwa settlement is located about 3 kilometers from the Dar es Salaam City center (Sakijege, 2013). It is one of the sub-wards within Mibulani Ward, Temeke Municipality. The settlement inhabits a total number of 3,024 households (United Republic of Tanzania, 2002). Apart from being developed informally, it also has a flat landscape and receives rainwater from the surrounding settlements which are on a higher altitude and thus escalate the vulnerability of the settlements.

The rapid development of informal housing in Keko Machungwa was observed in the 1990s during the urbanization trends that led to the increase of housing density up to 19 houses/ha (Sakijege, 2013). Later on, 1,654 houses covered the area with an overall density of 20 houses per hectare by the end of 2008

(Sakijege, 2013). This was driven by the free market economy in Tanzania. Further intensification of the informal land subdivision was due to the people’s preference to dwell near the CBD (working place) and the number of people seeking employment opportunities at Chang’ombe Industrial area. The main income-generating activity at Keko Machungwa is rental housing (Junun, 2014).

Below is the diagram (figure. 13) that shows the selection of the sample space that was used for study within the Keko Machungwa settlement due to the availability of abundant potential public spaces determined by the field survey.

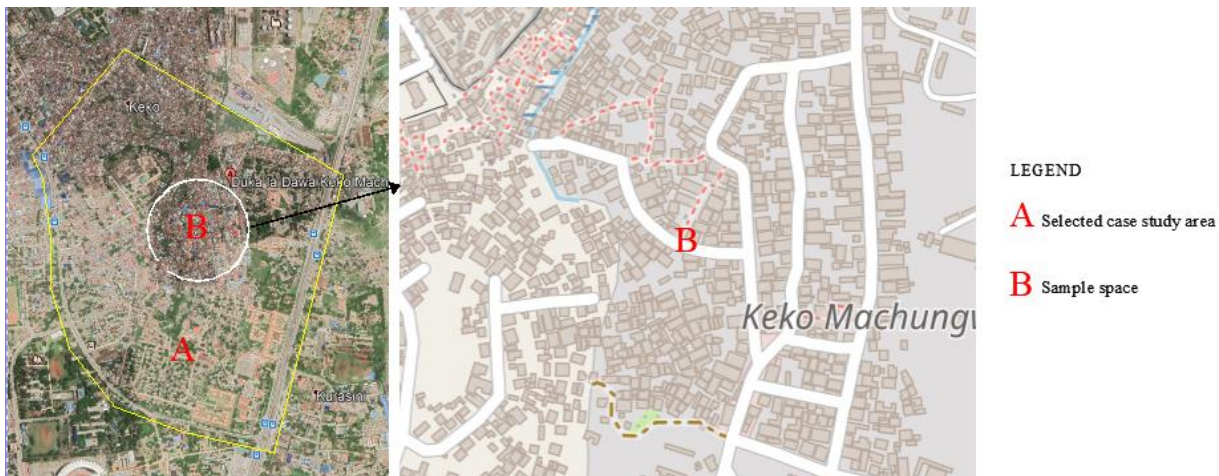


Figure 13: The selection of the sample space within the Keko Machungwa settlement. (Source: Google earth map, 2020)

4.4.3 Makongo, Dar es Salaam

Makongo settlement is located in Kinondoni Municipality, near government institutions which are Ardhi University, University of Dar es Salaam (UDSM), Lugalo Military Barracks, and the Rwegarulila Water Resources Institute. It had up to 8000 residents with over 1,000 households occupying approximately 400 hectares of land (Kalugila, 2014). Makongo is one of the mixed informal settlements that was originally forest-like and un-habitable (Kironde, 2019). Between the 1930s and 1940s, there was an expansion of

sisal estates in Tanzania (Kalugila, 2014). Makongo was among the sisal plantations. The plantation employed workers who had created settlements near their workplace.

After the collapse of the sisal market during the 1950s and 60s, the land use changed, leading to more people moving into the area clearing sisal, subdividing land and cultivating subsistence crops and later over the years into a booming settlement that it is today (Kalugila, 2014). Shortly the settlement is dignified to reach the saturated state judging from the demand of land, the pace of land transactions, and the speed of house construction. Currently, its land is used for, commercial activities, residential purposes (for instance the university students and staff due to their close proximity to the universities), and some gardening activities since there is ample space due to low housing densities (Kalugila, 2014).

The following is a diagram (figure 14) that shows the selection of the sample space that was used for study within Makongo settlement due to the availability of abundant potential public spaces determined by the field survey.



Figure 14: Diagram showing the selection of the sample space that was used for study within the Makongo settlement. (Source: Google earth map, 2020)

4.4.4 Kunduchi Pwani, Dar es Salaam

Kunduchi ward with a total population of 75,016, comprises five sub wards, which are Kondo, Kilongamima, Mtongani, Tegeta, and Pwani (NBST, 2012). Amongst small-scale informal settlements, Kunduchi Pwani is one of them with a long history of development along the strip of the Indian Ocean in Dar es Salaam. They present a society that started purely from fishing activities and later grew to form a society (Sakijege, 2013).

It began as a small fishermen village called Mzizima which became one of the important meeting points between the Arab traders, indigenous Zaramo, and Shomvi people of the coast in the 19th century (Sakijege, 2013). By 1862, it then developed into a very significant port city of Dar es salaam (Brennan et al., 2007). Up until this day the fishing activities still taking place as an extension of a business and social relationship that has persevered for a very long time as the neighborhood grew from a few houses.

The following is a diagram (figure 15) that shows the selection of the sample space that was used for study within the Kunduchi Pwani settlement due to the availability of abundant potential public spaces determined by the field survey.



Figure 15: The selection of the sample space within the Kunduchi Pwani settlement. (Source: Google earth map, 2020)

4.5 Data sources and collection methods

The data for this study was collected in stages. The first stage was an investigation into the evolution of public spaces during informal land subdivision. This informal land subdivision process was obtained from the narration of 20 residents and key informants of the respective areas in the informal settlement to trace the evolution of public spaces as a result of the transformations.

The second stage of this study began with the search for public spaces. Initially, it was necessary to investigate the typologies of urban spaces produced by informal land subdivision. This was obtained by wandering around the neighborhood, observing and photographing the various types of urban spaces that exist in the informal settlements, using Carmona's attributes for the 20 different types of urban spaces. Following that came the fieldwork, in which the degree of publicness of various types of spaces in the informal settlement was assessed using the five themes of publicness. Such information was obtained from local authorities, key informants, and residents through in-depth interviews with 20 respondents, in order

to obtain details required for providing answers to probing research questions, supplemented by photography, and ultimately achieving the main goal of the research.

4.5.1 Unit of analysis

Because the primary goal of this study is to investigate the genesis of the existence of public spaces during informal land subdivision and how they operate in the informal settlement in terms of their dynamics of establishment, ownership, control, and maintenance, the main focus was at a household level, specifically the residential zone, and was later analysed at a neighbourhood level.

Given that the residential zone is highly compacted, with housing units occupying a large percentage of the settlement, the study is compelled to investigate the nature of the public domain in the midst of all that compaction and disorder. It aims to assess the quality of social dimension and public life in the residential zone if there are any public spaces. Similarly, at a neighbourhood level, the study determines that it is necessary to examine the individual public spaces in relation to the entire neighbourhood in terms of how they are linked together and their degree of publicness.

4.6 Data Processing and Analysis

In this research, the data collected was organized and matched against the research variables addressed by the theoretic star model of publicness. Thereafter from the interpretation of the data collected, the study analysed the quality of publicness in the silent public spaces to recommend ways to maintain and preserve their existence at the end. The obtained results were displayed in the form of texts, figures, illustrations, and supported by a few actual respondents' narratives from the field of study.

4.7 Reliability and Validity

Every decision was meticulously documented and then verified. To ensure reliability in this research, several appropriate data collection skills, such as interviews and observations, were documented by note-taking, photographic registration, sketching, tape recording, and mapping. According to Yin (2009), "validity deals with the extent to which the research is conducted accurately." This is concerned with determining whether the entire study package is carried out precisely and correctly."

Furthermore, after a thorough analysis and conclusion using local authorities, key informants, and residents of the respective neighbourhoods, feedback from citizens of selected case studies were sought. It is safe to say that the clear problem statement, research objectives, questions asked, data collection tools, and analysis are all guided solely by relevant literature.

4.7 Challenges faced during data collection

The data was collected during the political campaigns for the election of local government officials and members of parliament. During the in-depth interviews with the residents, the majority of them were skeptical of the study's purpose, even after receiving a proper introduction attached to introduction letters from Ardhi University to the local authorities. They believed that the data collected was to be used by the campaigns to identify the daily challenges that residents face and to make false promises to the people.

Since this research involves visiting public spaces in the neighborhood where many jobless people spend their time, some would ask for money before being interrogated, and others were afraid to be seen in photos, believing it was police work attempting to catch some misbehavior such as drug use or gambling. As a result, people can't be seen in some photographs of public spaces. To deal with the difficulties, it was necessary to pay a local government official to accompany the interviewers because people are more relaxed and cooperative when they see a familiar face accompanying a stranger.

CHAPTER FIVE

5.0 FINDINGS AND DISCUSSION

5.1 The evolution of public spaces in informal settlements

This section aims at revealing the various ways that public spaces evolve during the informal land subdivision within the chosen case study areas (figure.16) in Dar es Salaam.

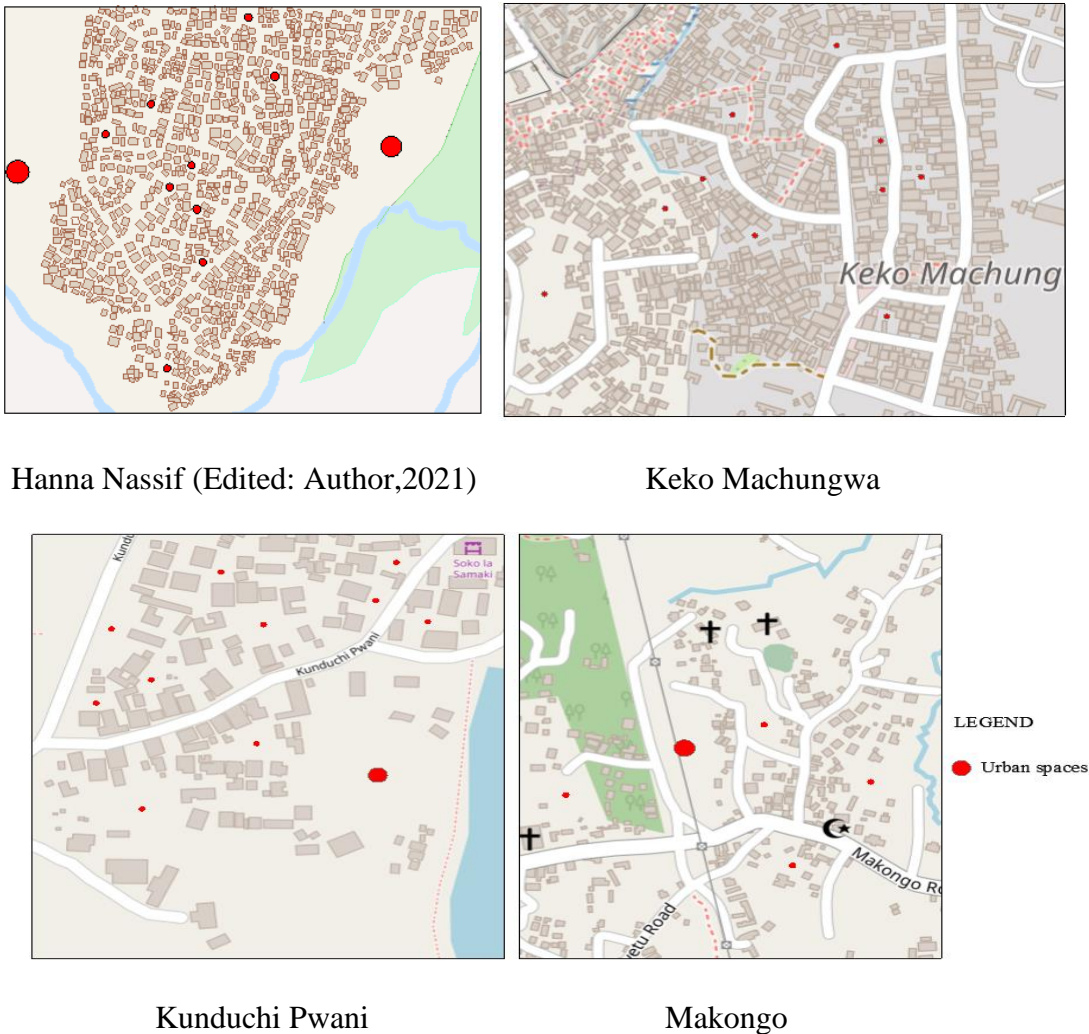


Figure 16: Maps from the sample spaces of selected settlements showing the identified urban spaces visited during the field study (Source: Google earth, 2020)

The main concern that fueled the motive of this study was the uncertainty of the existence of public spaces as a result of the informal land subdivision process, which usually occurs without any preconceived intention of providing public space. Hence, a search for public spaces was conducted in the four case studies chosen: Hanna Nassif, Keko Machungwa, Makongo, and Kunduchi Pwani. Based on Carmona's (2008) definition of public spaces stating them as spaces that are free although not necessarily unrestricted access, the search has identified several prominent public spaces in the settlements with the help of key informants and other residents. Since the study's goal was to learn how they evolved from the informal land subdivision process, probing questions about that phenomenon were asked during in-depth interviews with residents and local officials. The study was able to deduce the following ways in which public spaces evolve as a result of informal land subdivision: Individual initiative, community initiative, and government intervention.

5.1.1 Government intervention

Among the selected case studies, some public spaces came into existence due to the intervention of the government. The government imposes restrictions on a parcel of land to prohibit further development. The reasons behind the restrictions may be either the land is hazardous to be used for settlement or the land was used by the government for further development projects.

A good example of such a phenomenon was observed in Hanna Nassif. A portion of land that was once occupied by houses (right picture of figure 17) was vacated after the floods associated with the Msimbazi River. Currently, it is preserved by the government and further housing developments are restricted. It is now used as a public space harboring diverse activity from selling fish, kids playing, a chill zone for youth (figure18). The usage of the open space is mainly seasonal and depends on the time of the day. For instance, during the rainy seasons, the place becomes almost obsolete due to the fact that there are no

shelters that facilitate the activities to be conducted. Most of the activities are conducted during the day time when there is light but when it reaches night time everyone vacates the area because the place is totally dark due to lack of street lights. However, the area has succeeded in bringing in all age groups together such as the elderly who rest under the tree and drink coffee, young people who conduct fishing activities and kids who use part of it as their playground. It has failed to include the women; only men were present in the area. To reply to the question about the absence of women in the area, one informant claimed that the Swahili culture and the lifestyle in the informal settlement force most women to mostly stay indoors to take care of the house or conduct business close to their homes and not do recreational activities someplace else in a daily basis. However, the study believes, if the urban space could have accommodated more diverse activities that involve women, it could have attracted some women to engage in the space.



Figure 17: At the right is the Hanna Nassif settlement in 2005 before the flood. At the left is the Hanna Nassif settlement after the flood (Source: Google earth, 2020).



Figure 18: The reclaimed public space (Source: Author, 2020)

A similar case was found in the Makongo settlement (figure 19). The land was once owned by various individuals. However, during the course of time and further development of infrastructure, it was necessary to acquire substantial land for installing electric cables and underground gas pipes. As a result, the government compensated the owners within the long strip of land that served the infrastructure installation purpose (right picture of fig 19), hence ample land is left bare and it is currently used for public activities like football matches, religious ceremonies, and political gatherings (figure 20). However, the urban space is not adaptive enough since it is useless in some weather conditions like during the rainy days. Yet sometimes some football matches take place during the rain, their safety is compromised due to their close proximity to the electric wires which pose a bigger threat to the users below when the rain pours on the high voltage electric wires.

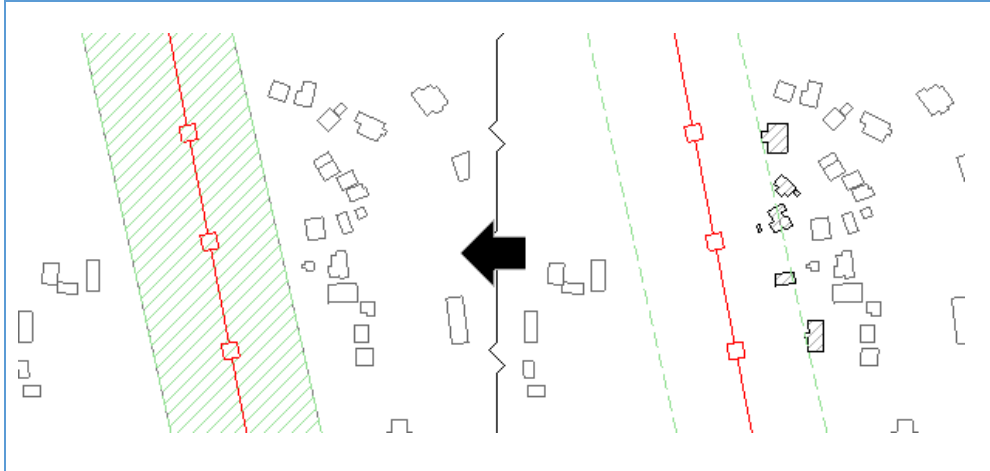


Figure 19: The evolution of the public space due to infrastructure installation (Source: Author, 2020)



Figure 20: The public space that evolved from a piece of land reserved for infrastructural development (Source: Author, 2020)

5.1.2 Community initiative

Apart from government intervention, public spaces can evolve from the collective decision of the community. A group of houses in a part of the neighborhood can delegate portions of the land they privately own to be used by the residents around the neighborhood. A similar situation normally happens when they have to designate a path to facilitate movement. Hence the decisions are made through

organizing meetings, discuss and collectively agree on the provision of public space (participatory approach).

Such a case was observed in the Kunduchi Pwani settlement (figure 21). The public space is made up of some houses in a street. They arranged themselves in a way forming a cul de sac. Each of the families met and agreed that each resident will dedicate a part of his/ her land and leave it open for public use, specifically for the households of the houses (right picture of figure 21). The public space will be used as a playground for their kids, domestic purposes, parties, and ceremonies (figure 22). However, the presence of such limitations of the open public spaces affects the publicness of space because they are going against ‘inclusion’, one of the basic human needs of interaction promoted by Gehl et al., (2013). He advocates that inclusive public spaces that freely allow planned and spontaneous social interactions lead to a healthy sustainable public life (Ariza, 2019).

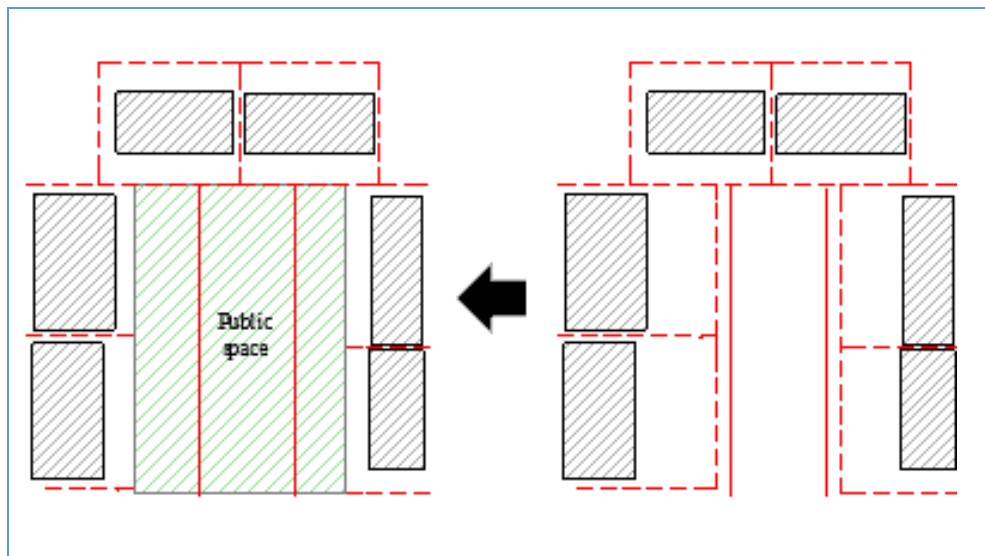


Figure 21: The evolution of public space through community initiative. (Source: Author, 2020)



Figure 22: The public space formed by community initiative. (Source: Author, 2020)

5.1.3 Individual initiative

This is the relatively dominant way that most public spaces in the informal settlements evolved. In most cases, the initiative is taken by the individual owners of the delegated pieces of land. However, there are various scenarios of how public spaces evolve from the individual land subdivision:

The first case was observed in the Keko Machungwa settlement (figure 23). Originally the plot had one house in which the owner lived (left picture of figure 23). Some other places were not occupied by houses. However, after some years passed more houses were built and eventually surrounded the plot. The owner wanted to add a new house for rent. Due to the crowded cluster, he found it necessary to locate the new house in a certain orientation (right picture of figure 23) that will leave a space (figure 24) for passersby to cross and also for other recreational activities and gatherings.

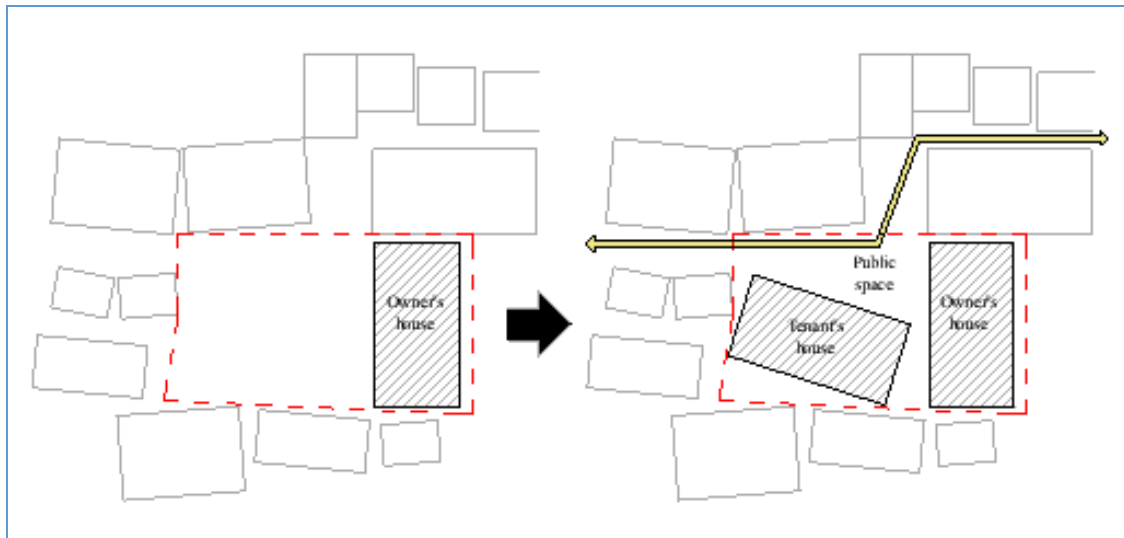


Figure 23: The evolution of a public space in Keko Machungwa due to the owner's initiative. (Source: Author, 2020)



Figure 24: The public space in Keko Machungwa formed due to owner's initiative. (Source: Author, 2020)

Another situation was identified in the Hanna Nassif settlement (figure 25). The owner of the land reserved the part of the land to construct a nursery school (left picture of figure 25). He was already done with the foundation when the money to fund the project ran short. Hence the land was left open (right picture of

figure 25). The public then started using it, beginning with the children playing, youth conducted team meetings, ceremonies were held and parties took place under the owner's consent (figure 26). However, the sustainability of such a place owned by an individual who layouts some limitations, is highly uncertain. Since the owner has absolute control of the space, he could later decide to use the place for his private necessities or economic gain.

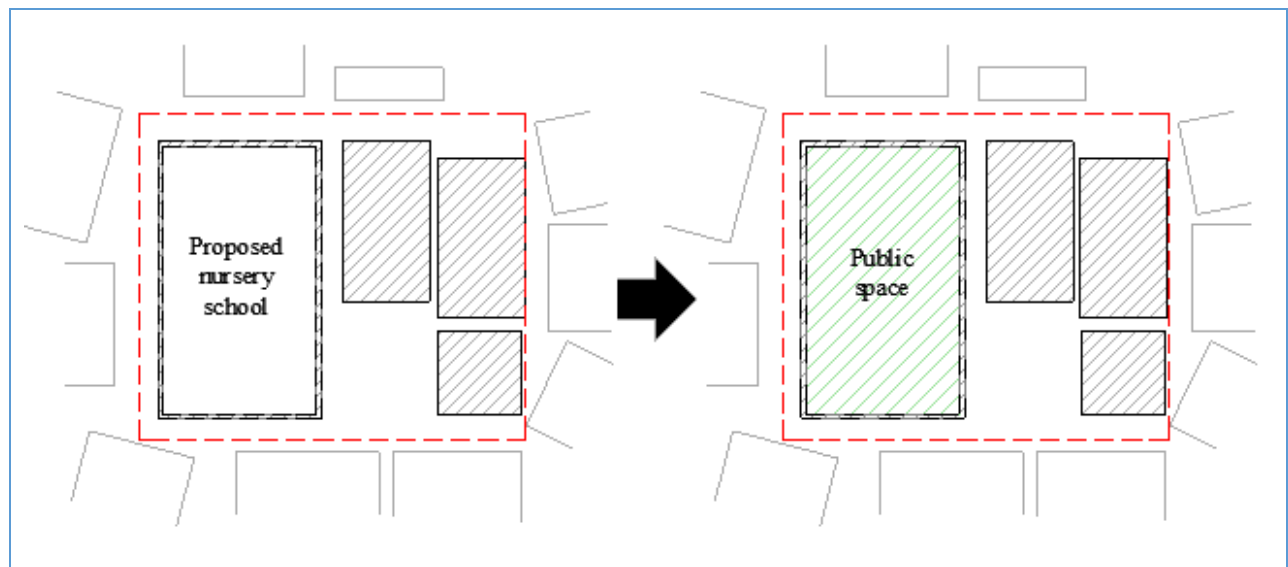


Figure 25: The evolution of a public space in Hanna Nassif due to the owner's underdeveloped land.

(Source: Author, 2020)



Figure 26: The public space in Hanna Nassif evolved from individual initiative. (Source: Author, 2020)

Another scenario came to the study's attention in the Kunduchi Pwani settlement. In 1978, this land was once an open space where they used to sell local beer known as 'chibuku'. Later in 1982, it was sold to three friends who rented the place to someone. The man decided to build a market. However, he wasn't able to run it well so the owners seized it and put it under their name. They then rented the market to several traders (figure 27).

However, rumor has it, they want to sell it again because apparently, they don't benefit a lot from the venture. Surveyors have already come to take measurements and document them. This public space will cease to exist if the buyer chooses to get rid of it and build up a house.



Figure 27: The public space used as a market by the public in Kunduchi Pwani settlement (Source: Author, 2020)

Last but not least, another situation involves the movement spaces such as roads and footpaths (figure 28), which are the dominant public spaces in all the informal settlements, have initially evolved from the initial stages of informal land subdivision. Their existence is brought by individual initiatives whereby, an individual dedicates part of his/her land to make a path that can be used by him/her, all the residents, and visitors of the settlement.



Figure 28: Movement spaces used as public spaces in Hanna Nassif settlement (Source: Author, 2020)

5.1.4 Discussion

It can be summarized that the major possible ways within which public spaces evolve during the informal land subdivision process in informal settlements can be by the influence of an individual (owners of land), a cluster of houses, or by the government. The provision of spaces to be used by the public is an afterthought led by certain circumstances. In most cases, evolution involves residents dedicating their pieces of land to form public spaces and by the encroachment of leftover or vacant open spaces due to the lack of public spaces in informal settlements. For the case of the evolution of public spaces from government intervention, the initial intention is not to provide a particular space for public use. The government either restricts housing developments in hazardous land or the strip of land can be cleared for future community developments for instance infrastructural installation. In due time, those open spaces evolve into public spaces when the community seizes them and inject public activities into the spaces. As it was observed earlier, some of the public spaces are less adaptive and unsafe for the users, the government is called upon to develop a framework that will restrict or make them safe, enhance, govern and sustain such spaces.

Regarding Kohn (2004), he defined public spaces as spaces that are owned by the government, accessible to everyone without restriction, and /or fosters communication and interaction. However, the findings from the study evidently declare that some places behave or are used as public spaces but aren't owned by the government. Some of them are owned by the government for a specific use but due to less strict government control over the spaces, the people encroach the spaces and use them as public spaces.

Based on the literature on the evolution of public spaces, Row et al., (1962) consent with the idea of public space being both connective tissue and a social setting. Such a trait has been observed as one of the major causes of the evolution of public spaces in informal settlements. Most public spaces such as movement spaces, underdeveloped spaces at the junctions, retail spaces connecting the houses and the road (the residents and the passers-by) began as being connective tissues between two or more spaces in the urban fabric then when the people inject activities into them, they became social settings.

Hence, the evolution of public spaces in the informal settlements through the three interventions mentioned earlier is mainly an unplanned phenomenon that starts from an initial lack of public spaces, then comes a gradual necessity or desire of public spaces and eventually the provision of public spaces either by an individual or group of individuals dedicating part of their land to the public or the public encroaching an underdeveloped left-over space. Most public spaces in informal settlements of Dar es Salaam are temporal since they originate from private land. Within any period in the future, the owner might want to use that land he or she dedicated, for some other personal use.

5.2 Assessment of degree of public spaces of informal settlements in Dar es Salaam

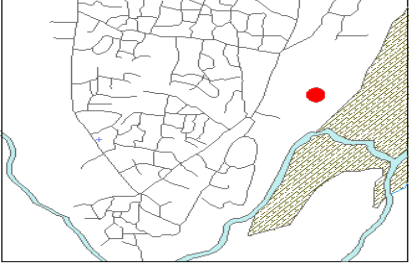



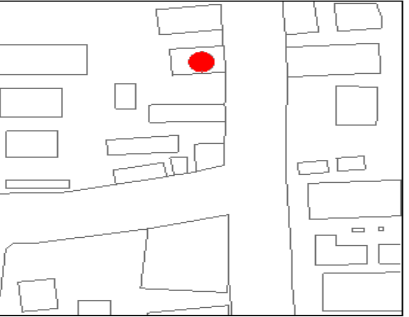

This section aims at unraveling the degree of publicness of the public spaces in the informal settlement. First and foremost, the research needed to identify the types of public spaces in the informal settlements. Regarding Table 1 from the literature, Carmona was able to classify twenty urban space types and from

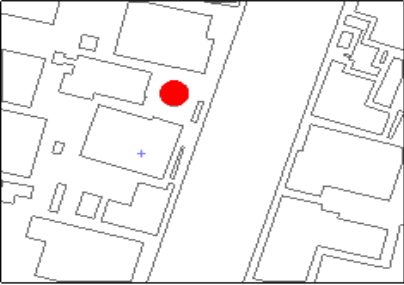

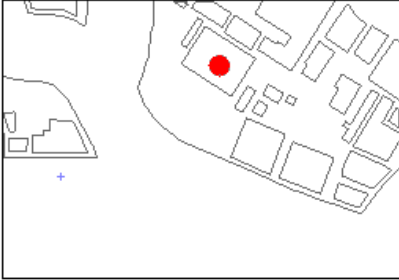

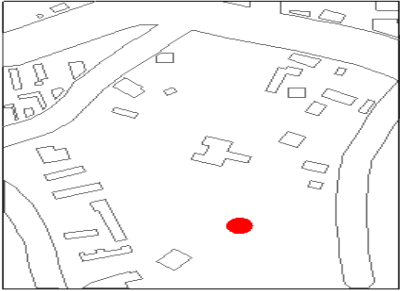

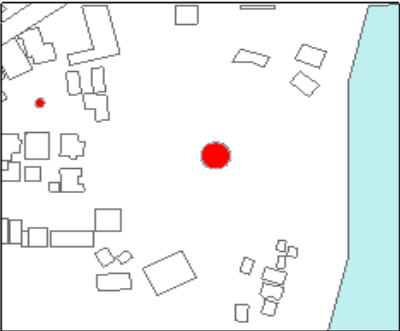

them, the study selected the types of public spaces observed during the field study. Hence this section informs on the types of urban spaces and using the Star Model, assess their degree of publicness together with the dynamics of their ownership, control, and maintenance.

5.2.1 Typology of public spaces in the informal settlements

A thorough site observation method was applied during the search for public spaces. Seven urban space types (table 6), based on their characteristics classified by Carmona et al., (2008) (table 1), were identified to coexist from the keen site observation of all the four selected case studies; Hanna Nassif, Keko Machungwa, Makongo, and Kunduchi Pwani (refer figure 16). Since the study was dealing with public spaces, among the three categories of urban spaces which are positive spaces, negative spaces, and private spaces, the seven urban space types were picked among the positive and negative spaces leaving out the private spaces which were not the focus of the research.

Table 6: The types of urban spaces identified in the informal settlements (refer to figure 16)

Space type	Examples from the settlements
<p>Type 1:</p> <p>Natural features- natural urban space; natural and semi-natural features within urban areas</p>	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Msimbazi river, Hanna Nassif (Author, 2020)</p>
<p>Type 2:</p> <p>Movement spaces- Space dominated by largely motorized transportation</p>	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Camp at Keko Machungwa (Author, 2020)</p>
<p>Type 3:</p> <p>Retail space- Privately owned but publicly accessible exchange spaces.</p>	<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;">Shop at Hanna Nassif (Author,2020)</p>

<p>Type 4:</p> <p>Undefined space- Undeveloped space, either abandoned or awaiting.</p>	  <p>Undeveloped land at Makongo (Author, 2020)</p>
<p>Type 5:</p> <p>Third place spaces- Semi-public meeting and social places.</p>	  <p>Mosque at Kunduchi Pwani (Author,2020)</p>
<p>Type 6:</p> <p>Civic space- The traditional forms of urban space, open and available to all</p>	  <p>Kinondoni Primary School Grounds (Author, 2020)</p>
<p>Type 7:</p> <p>Private-Public space- Publicly owned, but functionally and user determined spaces.</p>	  <p>Public space, Kunduchi (Author, 2020)</p>

5.2.2 Assessment of degree of publicness using Star Model

The Star Model dwells more in the detailed and contextual exploration of the publicness of public places. However, this is not and cannot be, a precise science, the derived judgments are debatable. Since the main objective of this research is to question the degree of publicness of public spaces in informal settlements, the model intends to be a tool for evaluating the value of publicness and also can be used for comparative purposes between public spaces. It produces an analytic measure of publicness to be linked with more subjective understandings of publicness. Moreover, it can be a take-off point for in-depth investigations of why certain places are more/less public than they should/could be.

Star models (fig 29) were developed for each urban space identified in the field. They are the result of the integration of respective meta dimensions into pictorial representations of places' publicness using the grading system from 1 (least public) to 5 (most public) with the use of indicators of publicness (refer table 2 page 35). Such scores of each meta dimension were determined by a keen observation of the physical nature of the urban spaces and information from in depth interviews with the locals. For comparison purposes that help in the analysis, an average grade of the meta dimensions for each space was obtained.

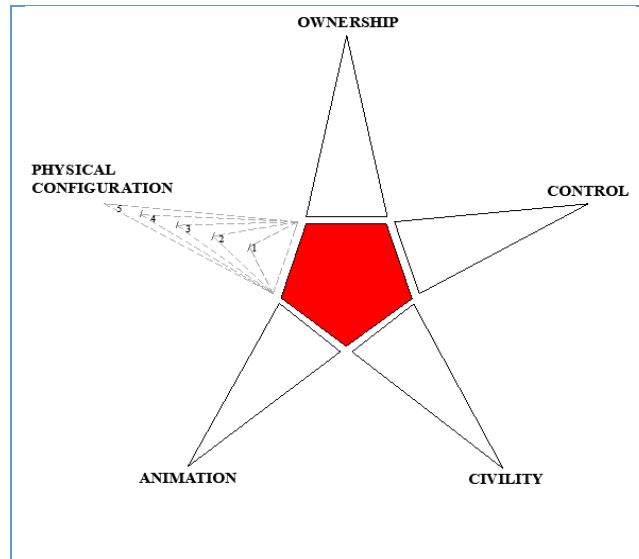


Figure 29: Star model of publicness showing the meta dimensions and grading system. (Source: Author, 2020)

The following are the star models of the seven urban spaces (table 6) and the analysis of the degree of their publicness together with the clarifications of the dynamics of their ownership, control, and maintenance:

Type 1: Natural feature

Referring to the star model (figure 30), the average grade of the meta dimensions is 4.2. This was obtained by taking the average of its civility scoring 3 (presence of caretaking staff who were the users themselves), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring 3 (no active constraints on access), ownership scoring 5 (public) and control scoring 5 (presence of specific rules and visible expression of control set by the users). Its average grade is above the moderate score (3), hence it's more public.

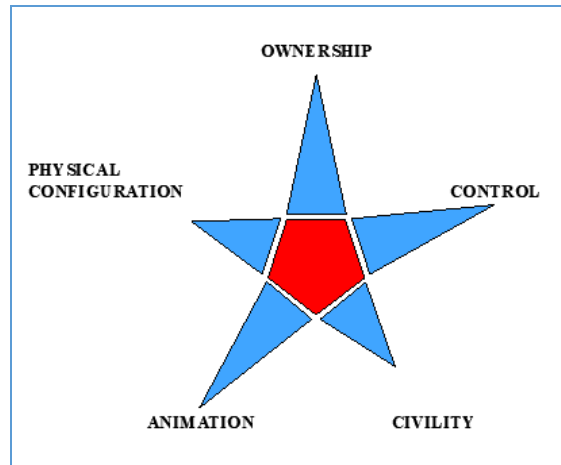


Figure 30: Star model of publicness of Msimbazi river bank, Hanna Nassif (Source: Author, 2020)

It's a part of an area that's at the banks of the Msimbazi River. Years ago, the space was built up, occupied by houses. During a rainy season, it flooded and destroyed all houses at the bank. After the disaster, the government decided to restrict the development of houses at the banks and the place should be left free. So now any person can go and use the place anyhow he or she wants. There is a non-visible expression of control present, no governmental staff exercise control over it. Every person is obliged to maintain the environment of the area he or she occupies instantaneously.

Type 2: Movement spaces

Referring to the star model (figure 31), the average grade of the meta dimensions is 5. This was obtained by taking the average of its civility scoring 5 (well kempt by the users and presence of facilities for basic needs), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring score 5 (strong visual and physical connection with implicit thresholds), ownership scoring 5 (public) and control scoring 5 (no visible control presence and most rules are enacted in a wider community interest). This means it is more public, exhibiting the highest degree of publicness.

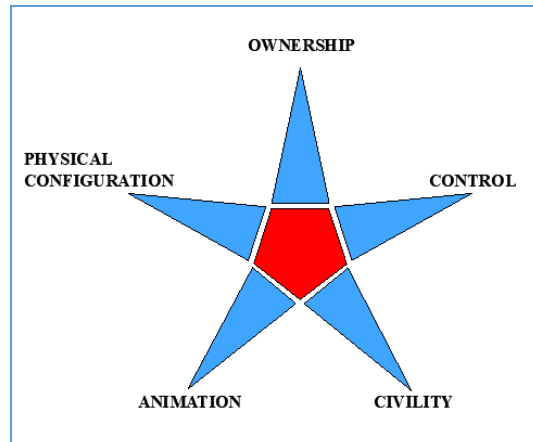


Figure 31: Star model of publicness of a road camp at Keko Machungwa. (Source: Author, 2020)

This camp represents many camps found on the road or footpath. The roads or footpaths are very open and accessible to all the residents. Anyone can occupy a certain convenient space on the road and utilize anyhow he or she wants such as retail purposes, recreational purposes, and many others. There is no formal authority that deals with ownership and establishment of the activities that happen on the paths. All the structures introduced in the movement space are temporary. Every person is obliged to maintain the environment of the area he or she occupies instantaneously.

Type 3: Retail space

Regarding the star model (figure 32), the average grade of the meta dimensions is 3.4. This was determined by taking the average of its civility scoring 5 (well kempt by the users and presence of facilities for basic needs), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring 3 (no active constraints on access but not throughout the day), ownership scoring 1 (private) and control scoring 3 (presence of a subtle expression of control presence). This shows that the place has moderate publicness. In other words, it can either be semipublic or semi-private.

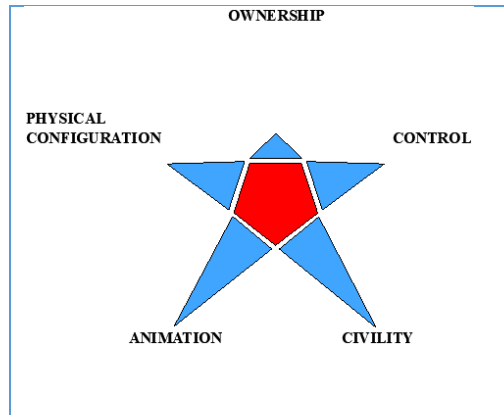


Figure 32: Star model of publicness of a shop at Hanna Nassif (Source: Author, 2020)

For instance, at the shop, everyone is allowed to use the space. The owner has nothing against visitors. He likes visitors since he considers them customers. In the mornings and evenings, there is a person who sells coffee. He spoke to the owner, and the owner allowed him to sell his coffee there. Hence there is a diversity of activities happening at the restaurant but none of it can take place unless permitted by the owner. The upkeep of the shop is entirely on the owner's management.

Type 4: Undefined space

According to the grading of the meta dimensions (figure33) from the investigation in the field, the average grade of the meta dimension is 3. This was derived by taking the average of its civility scoring 3 (presence of care taking staff who were the users and the owners workers), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring 3 (no active constraints on access but not throughout the day), ownership scoring 1 (private) and control scoring 3 (presence of a subtle expression of control presence).The moderate score concludes that the space is a semi-public or semi-private space.

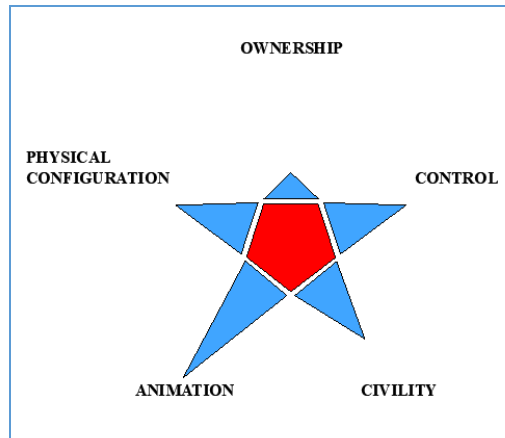


Figure 33: Star model of publicness of undeveloped land at Makongo (Source: Author, 2020)

The undeveloped land can be used by anyone but it has its restriction depending on the type of activity going on. A brief history of the space is that the owner wanted to build a house but ran out of funds at the foundation stage. It has been open to the public ever since. So people use the place for various activities. Kids are allowed to play there. Before the spread of Corona, many young people used to hang out there. So it's open for everyone to use however when it comes to parties and ceremonies, the owner should be requested to grant permission for the ceremonies and parties to take place. The maintenance of the area is a combined effort of the owner and the users of the space; the civilized will remember to leave the space clean after use but if they won't, the working staff of the owner will see to it that the place stays tidy.

Type 5: Third place space

Referring to the star model (fig. 34), the average grade of the meta dimensions is 3. This was computed by taking the average of its civility scoring 5 (well kempt by the users and presence of facilities for basic needs), animation scoring 1 (less vibrant and few opportunities for engagement), physical configuration scoring 3 (no active constraints on access but not throughout the day), ownership scoring 3

(public- private partnership) and control scoring 3 (presence of a subtle expression of control presence). Hence, it's a semipublic or semi-private space.

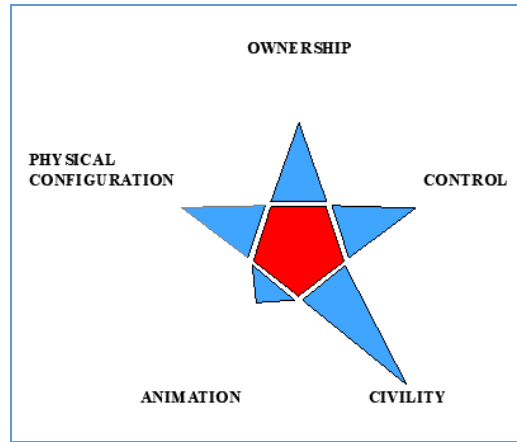


Figure 34: The Star model of mosque at Kunduchi Pwani (Source: Author, 2020)

The mosque at Kunduchi Pwani represents all the ‘third place’ space such as religious buildings, cafes, and restaurants. The space is owned by the religious leaders. Although there are explicit thresholds, it is accessible to all since it's a religious place. However, not all activities are permitted to take place. Ceremonies and gatherings should be initially permitted by the management to take place. The management is also involved in taking care of the mosque.

Type 6: Civic space

Regarding the star model (fig. 35), the average grade of the meta dimensions is 4.2. This was determined by taking the average of its civility scoring 5 (well kempt by the users and presence of facilities for basic needs), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring 3 (no active constraints on access but not throughout the day), ownership scoring 5 (public) and control scoring 3 (presence of a subtle expression of control presence). Since the average is higher than 3, it shows that the place is more public.

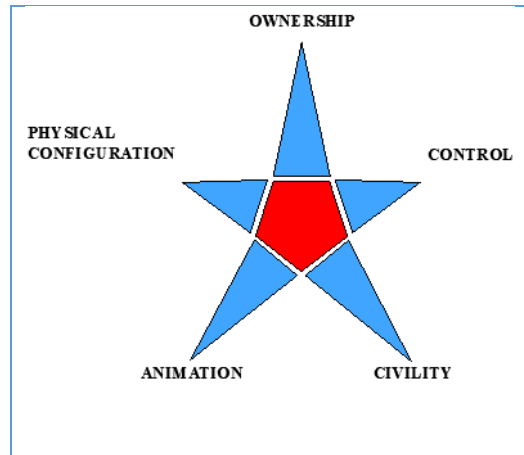


Figure 35: The Star model of Kinondoni Primary School Grounds. (Source: Author, 2020)

This is one of the largest public open space in Hanna Nassif. Although it is on the grounds of a primary school, it has been declared by the government that the place is open to the people of Hanna Nassif and the public can utilize it as they want. The grounds are used for many activities such as sports, political gatherings, seminars, and many others. There is no visible control presence. The maintenance and upkeep are all up to the users of the grounds.

Type 7: Private Public space

The star model (figure 36) of the open space has an average grade of 4.2 for the grading of its meta dimensions. This was obtained by taking the average of its civility scoring 5 (well kempt by the users and presence of facilities for basic needs), animation scoring 5 (multiple opportunities for engagement and social interaction), physical configuration scoring score 5 (strong visual and physical connection with implicit thresholds), ownership scoring 5 (private) and control scoring 5 (no visible control presence and most rules are enacted in a wider community interest). This shows that the urban space is more public.

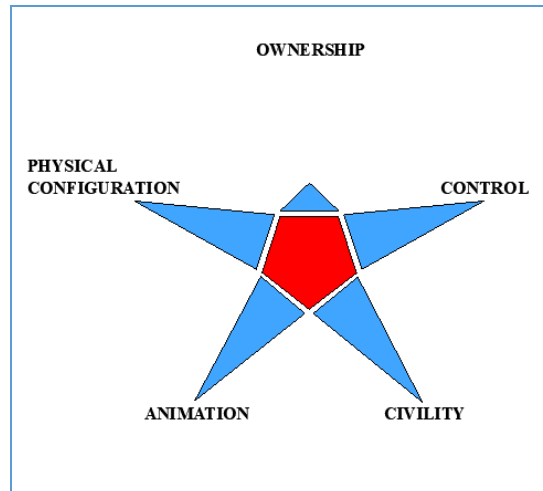


Figure 36: The Star model of an open space at Kunduchi Pwani (Source: Author, 2020)

The open space is privately owned but it is open with no physical boundaries and accessible to all. The owner facilitated amenities like seats, lights, toilet service, and many others. At first, he wanted to start a restaurant business but the mosque close by, begged him not to because it will bring misconduct. Up until now, the open space is highly vibrant and lots of diverse activities taking place. It has no visible control presence and no security guard. The surroundings are always well-kempt with his workers executing proactive maintenance practices. However, the major concern about the open space, is its uncertainty of existing in the future in case the owner decides to engage in some other land use.

Apart from the analysis of publicness using the Star model, an interesting discovery was made during the search of public spaces in informal settlements. When the study applied the deductive approach (investigate the different socially constructed perceptions of public space experienced by social groups and individuals), it has found that most public spaces are identified as public spaces, by the people, based on the presence of public activities taking place in a particular space. In other words, the degree of publicness in the eyes of the people is determined by the level of animation exhibited in a space.

The analysis of the public activities done in the public spaces in informal settlements is best clarified timely where each of the seven urban spaces fall into one of the three categories: temporal, semi temporal or semi-permanent and permanent activities. Temporal activities occur once and don't occur again in the same nature (funerals, wedding ceremonies, or some community gatherings), semi temporal activities occur periodically at regular time intervals (government campaigns or traditional dances in the informal settlements known as 'baikoko') and permanent activities are activities that occur continuously in a daily routine (drinking coffee in the mornings and evenings, playing games, petty trading activities along the roads and discussions among the users of space).

For instance, natural features are highly public since they were observed to support permanent activities like kids playing, fish sale, and chatting among users. Movement spaces are highly public due to their flexible ability to accommodate all the three categories of activities: temporal activities (funerals or wedding ceremonies), semi temporal (baikoko or government campaigns), and permanent activities (petty trading activities, camps, or children playing). Retail spaces in informal settlements are found to be highly public by allowing permanent public activities that take place daily with permission from the owner of the retail space. Undefined spaces, in the user's perception, are very public since they are flexible enough to contain all the categories of activities with permission from the owner. Third place spaces are less public since they don't contain permanent public activities; mostly temporal (wedding ceremonies, funeral ceremonies, or seminars) with permission from the authorities. Civic spaces and private-public spaces are highly public due to their nature of accommodating all the categories of activities such as temporal activities (community gatherings), semi temporal (government campaigns or baikoko), and permanent activities (football matches, chatting, and games)

5.2.3 Discussion

The public life in informal settlements and the social dimension of the public realm have all been accommodated into the seven urban spaces identified from the field study. Judging from the perspectives of the two approaches, inductive and deductive approach, and the study arrived at the following conclusion. The inductive approach addresses that when one looks at the animation dimension and sometimes the physical configuration dimension and notices how successful they are, they tend to conclude that these spaces are public spaces.

According to Varna, (2011), publicness is a multi-dimensional aspect and it's invalid to only focus on a few dimensions and conclude by calling a place a public space. As it has been observed from the data collected from the field and following its analysis by using the star model, it has proven that some urban spaces that were perceived as public spaces are not entirely public spaces. For instance, the retail, undefined, and third place spaces are found to be semi-public or semi-private spaces whereas the natural, movement, civic, and private-public spaces have scored to be more public spaces. The movement spaces have been assessed to be the most public spaces in the informal settlements, concerning its star model and its high degree/ level of publicness.

The dynamics of ownership, control, and maintenance, as it has been observed, vary depending on the degree of publicness of a particular urban space. Those urban spaces that were observed to have a moderate score (percentage or number) of publicness (semi-public or semi-private) have private ownership, a non-visible expression of control observed from some restrictions established by the owners, and the spaces are maintained and developed by both the users and the owners. The 'more public' urban spaces had some cases that exhibited public ownership (those evolved from government intervention) and some cases that

exhibited private ownership, no expression of control, and are maintained and developed by the public or owners.

On the contrary, the deductive approach yields quite different results. It has been found that the people living in the informal settlements perceive and identify the natural features, movement spaces, retail spaces, undefined spaces, civic spaces, and private-public spaces, as public spaces due to the availability and possibility of engaging in a wide range of public activities. The third places were not public enough since most of them were confined in certain physical demarcations which bring obstacles by not encouraging enough public activities to take place.

Regarding the previous literature review, Orum et al., (2009) states that public spaces include all areas that are open and accessible to all members of the public in a society, in principle though not necessarily in practice. According to the results of the Star model of publicness against the urban spaces, most of the urban spaces that had a low degree of publicness based on the model are observed by the people as being vibrant “public spaces” in the informal settlements. Orum et al., (2009) was aware of a probability of unknown contextual factors based on a specific location that can contradict the variables set by the formal principles of publicness; the Star Model of publicness. Hence in principle, a space cannot qualify to be called a public space but in practice, it can be.

By definition of a western understanding, the urban spaces that were found to have a low degree of publicness such as the retail spaces, undefined spaces, and third place spaces do not qualify to be called public spaces but their respective urban space type. This is because they don't conform too many factors that determine publicness in public spaces. As much as the Star Model of publicness is one of the best instruments used to assess the publicness of public spaces, there is a need to redefine/ understand public

spaces from informal local cases. The determination of public space by a resident in an informal settlement in Dar es Salaam is very different from that of a resident from Europe.

Henceforth, based on its findings, the study supports the definition of public space by Orum et al., (2009) as it being the most accurate and cuts across different contexts globally. The lessons from the findings have helped achieve the main objective of providing a better understanding of public spaces and to inform future public space formation.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Preamble

In this chapter, the conclusions and recommendations are displayed which may enlighten possible ways that the public spaces can evolve during the informal land subdivision and the assessment of their degree of publicness in the informal settlements. The conclusions are derived from the empirical findings documented in the previous Chapters. The recommendations are directed to achieve the third objective of the study that is to formulate various strategies of elevating and maintaining the publicness of the public spaces in informal settlements.

6.2 Conclusions

The investigation began with the curiosity that was derived from the informal land subdivision process in the informal settlements of Dar es Salaam. Judging from the informal process that takes place individually, the existence and the provision of public spaces during that process, was highly questionable. How can something public come out from such an individual process of land transaction mainly for personal gains? After further investigation and analysis, the study discovered that the individual land subdivision in informal settlements can lead into the evolution of public spaces. The findings show that the evolution of public spaces takes place in three ways; through government intervention, community initiatives, and individual initiatives. All of them don't originate from a preconceived plan or idea before development, but from an afterthought.

In some cases, the government can play a major role in the provision of public spaces in informal settlements either knowingly or unknowingly. In other words, there are passive formed public spaces and active formed public spaces. For instance, by declaring school grounds as public spaces, or during informal

settlements upgrading, it knowingly creates a public space in the dense neighborhood. Other circumstances that happen unknowingly include reserving a portion of land for a certain kind of development or prohibiting residence of disastrous land, it transforms that land into a public space due to its openness and emptiness attracting the public to use it. However, in most cases, the spaces were not initially intended by the government to be public spaces however the community has taken them as public spaces because of the activities taking place in them. Some situations involved a part of a community taking the initiative of reserving a piece of land to be used by the public by dedicating portions of their land. Moreover, such actions were also observed at an individual level which is relatively popular in most informal settlements than the other two interventions.

There are two ways of identifying public spaces; they can be earmarked (predetermined, measured, and evaluated) or they can be identified by observing the activities taking place in the spaces. The study found the need to explore both ways by using the inductive and deductive approaches. By using the inductive approach, the questioning of the degree of publicness of public spaces was answered by analyzing publicness by the Star model. The study concluded that there is a substantial amount of publicness missing in most urban spaces regarded or used as public spaces. Most of the urban spaces excluding the private space, the houses, are semipublic or semi-private. This is because they can seem public, judging from the vibrant use of space by the people at a particular moment, but in reality, the public doesn't own the spaces and their publicness is limited due to unseen restrictions from the owners of the public space. Most of the public spaces in the informal settlements are temporal. This means that most of them might not be used as public spaces but transformed to another land use in the future since the public doesn't contain the power is but possessed by individual owners of the land.

Hence, according to the inductive formal approach, in the eyes of urban intellectuals, there is no such space that is entirely public. Even the movement spaces that scored the highest degree of publicness, with the meta dimension average of 5, will not be public forever since the nature of publicness in informal settlements is temporal. However, grounded on publicness, in the informal context, it's more valid to categorize the spaces as more public, less public, or semipublic spaces.

Based on the deductive approach, guided by the perceptions of the people in the informal settlements, the activities which are done in the urban pockets involving the public, make those spaces to behave as public spaces since they facilitate the public life. However, they have no public ownership, which means, they are in danger of disappearing at any time. This calls for various efforts like formulation of local/community policies to preserve, maintain and protect them.

6.3 Recommendations

The rate of urbanization in the informal settlements is increasing as time progresses. This means the informal land subdivision will continue to take place threatening the existence of public spaces. Drastic measures should be formulated and employed to elevate and maintain the public spaces since public spaces are vital in the urban world greatly concerned with sustainable development. The government regulatory body can start with encouraging the owners and users of public space to take part in elevating each of the five meta dimensions of the existing urban spaces to increase the degree of publicness. By sustaining the five attributes of publicness, it generates solutions that will be applicable and effective to all the seven urban spaces. Moreover, the regulatory body can select a few urban spaces within the informal settlements and formulate policies and laws of preserving those spaces to be officially known and used as public spaces. This method has been observed to be successful in Hanna Nasif and Makongo settlements where the government selected civic spaces like primary school grounds to officially be used by the public after

the community introduced public activities into them. Hence, it is evident the strategy will work with the rest of the settlements. The following are some recommendations:

6.3.1 Elevating physical configuration

The degree of publicness of the existing urban spaces can be elevated by improving the visual permeability of the space. A space that has a strong visual connection with the external public realm can attract people and compel them to engage more in the space, either passively or actively. This might not be achieved by all the public spaces in the informal settlement due to the organic order of the settlements, but it can be practical to public spaces close to the roads or paths. Moreover, there should be no thresholds and entry points so that it is not distinguished from the surrounding public realm

6.3.2 Elevating animation

A space that has plenty of potential or opportunities for active and passive engagement of the public brings life to the public space and promotes its sustainability. Not only just opportunities but multiple diverse activities that facilitate social interaction. Some of the public spaces contain one or a few types of activity. In the end, only a certain group of people will be using the area, not including all groups of people as a public space is supposed to be. Moreover, the provision of amenities that encourages people to continue staying in the public space as encouraged by Gehl et al., (2013) and Row et al., (1962) would help to elevate the public spaces.

6.3.3 Elevating civility

The civility of public space is all about the cleansing regime and physical maintenance. One of the major challenges of most urban spaces in informal settlements is environmental pollution due to the absence of an effective environmental management system. To elevate such a public space facing such a challenge is to employ proactive maintenance practices e.g. emptying of bins, repairs, well maintained green spaces if

there are any. Well-kept and cared for public spaces are more welcoming and will elevate the degree of publicness. Moreover, the provision of facilities like toilets, lighting, and shelter can improve the civility of public space, and thus its publicness.

6.3.4 Policy formulation

Currently, there is a citywide upgrading program to improve the living conditions of the urban poor. It involves the upgrading and regularization of non-serviced and unplanned settlements. The elevation of public spaces should be part and parcel of their upgrading program since they have a direct influence on improving the overall public life.

The program should select the most strategic public spaces in the informal settlements of Dar es Salaam. Elevating the public spaces will require to implement the three recommendations stated earlier to improve the physical configuration, civility, and animation. Moreover, to improve the ownership and control dimension, it will hand over the public spaces to the people so that they are not owned and controlled privately but by the public. Last but not least it should formulate laws and policies that will protect, preserve and sustain the existence and operation of public spaces in the informal settlements.

6.3.5 Community participatory approach

Apart from the government dictating some spaces to be declared public spaces for all, some spaces will require the involvement of the local authorities and the community by the use of a participatory approach. The local authorities and the residents can meet to discuss and come to an agreement on the various ways the community will contribute to sustaining the prevailing public spaces.

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APPENDICES

Appendix 1: INTERVIEW GUIDES FOR RESIDENTS

A: Interview guide for planners

Name of the Interviewee.....

Date of the Interview.....Time.....

1. What is the historical background of this informal settlement?
2. How did the informal land subdivision process take place?
3. What are the types of public spaces found in this settlement?
4. How did they evolve or come to being, from the informal land subdivision process?

B: Interview guide for residents and key informants

Research question 1: Do public spaces exist in informal settlements? What is the nature of their publicness?

Name of the Interviewee.....

Date of the Interview.....Time.....

1. Are you a resident in this neighbourhood?
Wewe ni mkazi wa maeneo haya?
2. Who is the owner of this public space?
Nani mmiliki wa hili eneo?
3. Is everyone allowed to use this place? If no, who is allowed to use it?

Mtu yoyote anaweza hii sehemu? Kama jibu ni hapana, nani je anaweza kutumia hili eneo?

4. Do you enjoy being in this place? How often do you come here?

Unapenda mazingira ya hili eneo? Mara ngapi na mda gani unapenda kuja hapa?

5. What do you like to do when you come to this place?

Unapendelea kufanya nini ukija hapa?

6. Who is in charge with developing and maintaining this place?

Nani anahusika katika maendeleo na utunzaji wa hili eneo?

Research question 2: How are the public spaces formed, owned and maintained in the informal settlement?

1. What's the name of this public space?

Hili eneo linafahamika kwa jina gani?

2. Why did the people decide to give this place that name?

Kwanini wenyeji waliamua kulipa hili eneo jina hilo?

3. How did this place come to existence?

Unaweza kunipa historia ya hili eneo?

4. How is the ownership inherited during the course of time?

Ni kwa jinsi gani eneo hili limeweza kumilikishwa kwanzia nyakati za kale mpaka sasa?

5. How is the space established or declared as a public space by the targeted community?

Ni kwa mfumo gani eneo hili limeweza kutambulika na jamii kuwa ni eneo la burudani na mapumziko

Research question 3: How can the existence of public spaces be elevated and protected in the informal settlement?

1. How can the public space be upgraded to improve the public life?

Nini ungependa kifanyike ili pavutie zaidi na kukaribisha wageni waje kujumuika nanyi?

2. How can the public spaces be maintained and become sustainable for the future generation?

Nini kifanyike ili kudumisha uwepo wa hii sehemu kitumike na vizazi vinavyokuja?

Appendix 2: OBSERVATION GUIDE

This guide will be used to answer the two themes of publicness namely; physical configuration and animation

Physical Configuration

The exploration can be made between the place's macro-design (in relation to the whole neighborhood) and its micro-design (detailed design features of the place itself) (Varna, 2011)

Macro design

Three key qualities have to be considered

- centrality and connectivity
- visual access
- thresholds and gateways

Centrality and connectivity; greater potential for bringing different special groups together in space and time e.g., junctions, middle of the houses, along roads connecting two neighborhoods

Visual access: ability to see into a place; make places inclusive or exclusive visually eg an open plan, transparent facades, visual appropriateness, detail facades rich with information about what's going on.

Thresholds and gateways: Physically accessible? Any physical barriers?

Micro design

- good opportunities for walking
- good opportunities for sitting

Animation

- Is it a deserted, empty place or a vibrant arena for public life? (Photos)
- high variety of users (photos and interviews)
- wide diversity of activities (photos)