



UHASSELT

KNOWLEDGE IN ACTION



2025 | Faculty of Architecture and Arts

Doctoral dissertation submitted to obtain the degrees of
- UHasselt: Doctor of Architecture
- Ardhi University: Doctor of Philosophy in Architecture

Richard Besha

DOCTORAL DISSERTATION

Exploring Self-organized
Commercial Streets: Towards a
Participatory Design Approach
through an Anthropological
Study of Shekilango
Commercial Street in Dar es
Salaam, Tanzania

Exploring Self-organized Commercial Streets: Towards a Participatory Design Approach through an
Anthropological Study of Shekilango Commercial Street in Dar es Salaam, Tanzania

Richard Besha



UHASSELT

KNOWLEDGE IN ACTION

www.uhasselt.be
Hasselt University
Martelarenlaan 42 | BE-3500 Hasselt

Promoters: Prof. Dr Liesbeth Huybrechts | UHasselt
Prof. Dr Wilbard Kombe | Ardhi University

Co-promoters: Prof. Dr *ir.* arch. Oswald Devisch | UHasselt
Dr arch. Daniel Mbisso | Bank of Tanzania



UHASSELT

KNOWLEDGE IN ACTION



2025 | Faculty of Architecture and Arts

Doctoral dissertation submitted to obtain the degrees of
- UHasselt: Doctor of Architecture
- Ardhi University: Doctor of Philosophy in Architecture

Richard Besha

DOCTORAL DISSERTATION

Exploring Self-organized
Commercial Streets: Towards a
Participatory Design Approach
through an Anthropological
Study of Shekilango
Commercial Street in Dar es
Salaam, Tanzania

Promoters: Prof. Dr Liesbeth Huybrechts | UHasselt
Prof. Dr Wilbard Kombe | Ardhi University

Co-promoters: Prof. Dr *ir.* arch. Oswald Devisch | UHasselt
Dr arch. Daniel Mbisso | Bank of Tanzania

D/2025/2451/85

**EXPLORING SELF-ORGANIZED COMMERCIAL STREETS: TOWARDS A PARTICIPATORY DESIGN
APPROACH THROUGH AN ANTHROPOLOGICAL STUDY OF SHEKILANGO COMMERCIAL STREET
IN DAR ES SALAAM, TANZANIA**

Besha, Richard Moses

**Doctor of Philosophy in Architecture
September, 2025**

CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Ardhi University and Hasselt University a dissertation entitled "Exploring Self-Organized Commercial Streets: Towards a Participatory Design Approach Through an Anthropological Study of Shekilango Commercial Street in Dar Es Salaam, Tanzania" in partial fulfillment of the award of the Doctor of Philosophy of Architecture.



.....

PROF. WILBARD KOMBE

ARDHI UNIVERSITY

(PROMOTER)



.....

PROF. LIESBETH HUYBRECHTS

HASSELT UNIVERSITY

(PROMOTER)

DECLARATION AND COPYRIGHT

"This thesis is copyright material protected under the Berne Convention, the Copyright Act of 1999 and other international and national enactments, in that behalf, on intellectual property. It may not be reproduced by any means, in full or in part, except for short extracts in fair dealing; for research or private study, critical scholarly review or discourse with an acknowledgement, without the written permission of the Directorate of Postgraduate Studies, on behalf of both the author and Ardhi University."



Richard Besha

ACKNOWLEDGMENTS

First and foremost, I would like to thank the Lord for granting me sound health and the will to persevere when times were hard. Praise be to him.

I am greatly indebted to Hasselt University and Ardhi University for admitting me to their PhD programs and for providing me with financial support throughout the entire study period. A vote of thanks goes to the ERASMUS Program of Hasselt University, through which I was able to present my PhD concept note before the admission, and for the opportunity to write the thesis during the last moments of the study. I extend my vote of thanks to the Ministry of Education, Science, and Technology of Tanzania, and the BoF BILA scholarship of UHasselt for the financial aid that made it possible to pursue my PhD studies.

My heartfelt gratitude goes out to my supervisors – Prof. Wilbard Kombe and Prof. Liesbeth Huybrechts, who, apart from providing world-class academic supervision, also offered fatherly and sisterly warmth, mentoring, guidance, encouragement, and consolation. Above all else, their genius, empathy, expertise, and intelligence made this pursuit a memorable journey. Every encounter with them was an eye-opener and an exciting learning experience. I am profoundly grateful to my Co-supervisors, Prof. Oswald Devisch and Dr. Daniel Mbisso, for their bold, insightful, and expert guidance. It is from the encounters with these four God-sent human beings that a skeletal concept took shape and became PhD material. I am indebted to my research committee panelists (My aforementioned supervisors, Prof. Ann Verhetsel and Dr. Els Hannes).

Special thanks go to Dr. Els Hannes, who, apart from her sharp insights and critique, was an excellent coordinator of my studies. In the peak of COVID-19, which almost had me stuck in Europe for an indefinite time, she tirelessly helped me return home.

I am grateful to my colleagues from the Capacity Building research team at Hasselt University and the Department of Architecture – Ardhi University for their insights, thoughts, and every moment – academic and social; each was immeasurably useful and life-changing.

I cannot thank my beautiful family enough for enduring the moments when I was either absent at home or physically present but mentally absent. The unconditional love, unwavering faith in me, and the support I received from them throughout the study made things easier than they should have been. Lily, Bree, Moses and Lyn; I love you dearly and thank you lots.

Last but not least, I thank all the respondents for their cooperation: government officials from MLHSD and Kinondoni Municipality, Sinza local government officers, project consultants, plot and business owners and residents of Sinza, I am indebted to you.

DEDICATION

To the businesspeople and entrepreneurs on the streets of Dar es Salaam

ABSTRACT

In sub-Saharan Africa, urban studies have primarily focused on planning, engineering, and sanitation. Research has also shown that state-driven interventions in urban environments do not address daily lived realities, thereby missing their aim and affecting the livelihoods of residents on one hand. On the other hand, since residents have the capacity to shape their environment through self-organization by employing tacit knowledge, this knowledge, which can be an inspiration for authorities and professionals, remains largely unanalyzed. This study is an attempt to unveil self-organized processes and resident-created qualities along Shekilango commercial street in Dar es Salaam, Tanzania. To connect this study with livelihoods, it employs the asset-based approach in which the qualities of the physical asset (the built environment) and the social asset (actors' interrelations) are analysed and discussed. The study employed a design anthropological approach in which the researcher observed and interviewed respondents through coworking, and shadowing. Complexity theory was employed as the main lens for analyzing informal processes, actors' interrelations and self-organized practices. Lefebvre's Social Production of Space theory (1991) was used for analyzing space use and space generation. With the help of the concept of scarcity and literature on attributes of commercial streets in the west, mostly achieved by professionals, the study revealed residents' contributions in Tanzania with similar qualities, suggesting that non-professionals positively contribute to urban built environments. The combination of design anthropology and complexity theory has revealed strong actors' interdependencies and codesign processes for overcoming what is scarce in urban built environments. The study proposes timely and more active actor involvements to substitute self-organized participatory design, which is triggered by untimely and top-down spatial development approaches. The study also proposes closer interactions among authorities, professionals, and residents to address residents' contributions and guide their daily decisions in generating and using space. As much as we would like these spaces and the efforts to be integrated in formal planning, they need to be "*understood*" rather than to be "*solved*" since their creation and use are too dynamic to be predicted. They remain to be "*negotiated lived spaces*" which continually evolve.

LIST OF ACRONYMS

CBD –	Central Business District
DCC –	Dar es Salaam City Council
DCRP –	Dar es Salaam Central Area Redevelopment Plan
DFID –	Department for International Development
DMDP –	Dar es Salaam Metropolitan Development Project
DSM –	Dar es Salaam
EPM –	Environmental Planning and Management
MLHSD –	Ministry of Lands and Human Settlements Development
OXFAM –	Oxford Committee for Famine Relief
PD –	Participatory Design
PPP –	Public Private Partnerships
RoW –	Right of Way
SCP –	Sustainable Cities Programme
SDP –	Sustainable Dar es Salaam Programme
SL –	Sustainable livelihoods
SUDP –	Strategic Urban Development Plan
TANROADS –	Tanzania National Roads Agency
TARURA –	Tanzania Rural and Urban Roads Agency
THB –	Tanzania Housing Bank
ToR –	Terms of Reference
UNCHS –	United Nations Center for Housing Studies

TABLE OF CONTENTS

CERTIFICATION	i
DECLARATION AND COPYRIGHT	ii
ACKNOWLEDGMENTS	iii
DEDICATION	iv
ABSTRACT	v
LIST OF ACRONYMS	vi
TABLE OF CONTENTS	vii
LIST OF FIGURES	xii
LIST OF TABLES	xvi
CHAPTER ONE	
THE STUDY	1
1.1 Introduction	1
1.2 Study Background	2
1.3 Motivation For Studying Commercial Streets in Dar Es Salaam, Tanzania	5
1.4 Problem Statement: Analysis of Tacit Knowledge in Qualities and Self-Organized Processes	6
1.5 Main Objective	7
1.6 Research Questions	7
1.7 Significance of the Study	8
1.8 Research Limitations	8
CHAPTER TWO	
QUALITIES, ATTRIBUTES AND ASSETS OF URBAN COMMERCIAL STREETS.....	11
2.1 Introduction	11
2.2 The evolution and development of urban commercial streets	11
2.3 Commercial Street space.....	14
2.4 Qualities, Design and Features of Commercial Streets; In Search of Western Formal Attributes	14
2.5 Richness of commercial streets	18
2.6 Space use and visual characteristics of commercial streets	18
2.6.1 Visual and physical characteristics	18
2.6.2 Character, space use, and activities	19
2.7 Classification and categories of commercial streets	19
2.8 Road classification and funding in Tanzania	23
2.9 Conceptualization of urban road structure in Dar es Salaam	24
2.10 The adopted universal approach towards improving urban movement channels – the Transit Oriented Development (TOD) in Dar es Salaam	26
2.11 Livelihood assets in commercial streets: the asset-based strategy	28
2.11.1 The physical capital	31
2.11.2 The social capital	31
2.12 SL in practice	32
2.13 Chapter Summary	33

CHAPTER THREE

CONCEPTUALIZATION OF THE SELF-ORGANIZED COMMERCIAL STREET AND THEORETICAL

CONSIDERATIONS	35
3.1 Introduction	35
3.2 Theoretical Considerations.....	35
3.2.1 Complexity Theory: the Main Analytical Lens	35
3.2.2 The Ladder of Participation: Towards an Understanding of Participation and Actors' Capacities	37
3.2.3 Theories Grounded in Actors' Interactions and Interrelations.....	38
3.2.4 Theories Grounded in Space Generation, Space Use and Qualities of Commercial Street Spaces ...	38
3.3 Key Concepts.....	44
3.3.1 Understanding Self-Organization	44
3.3.2 Conceptualization of the Self-Organized Commercial Street	45
3.3.3 The Generation of a Self-Organized Space Through Appropriation of Space	46
3.3.4 Participatory Design.....	47
3.3.5 Space Use in Self-Organized Commercial Streets.....	49
3.3.6 Livelihoods in Self-Organized Commercial Streets.....	51
3.5 Literature Review Summary	53
3.5.1 Scant Literature on the Link Between Land Use and Commercial Street Development	54
3.5.2 Self-Organized Participatory Design as an Unanalyzed Component in Spatial Development.....	54
3.5.3 Inadequate Analysis and Inclusion of Informal Design Processes in City Making	55
3.5.4 Inadequate Analysis of the Link Between Livelihoods and Commercial Streets.....	55
3.5.5 Unanalyzed Scarcity in Upgrading Urban Environments	56

CHAPTER FOUR

RESEARCH METHODOLOGY	57
4.1 Introduction	57
4.2 Research Traditions	57
4.3 Research Strategy.....	57
4.4 Choice of the Case Study Area: Shekilango Commercial Street	58
4.5 Research Design	59
4.6 Unit of Analysis.....	59
4.7 Study Approach	60
4.7.1 Design Anthropology.....	60
4.7.2 Complexity Theory.....	60
4.8 Data Sources	62
4.9 The Case Selection Process	64
4.10 Data Collection Methods	69
4.10.1 Design Anthropology	69
4.10.2 The Pilot Study.....	70
4.10.3 Interviews	70
4.10.4 Observation	72
4.10.5 Documentary Evidence.....	72
4.11 Data Analysis and Interpretation: Grounded Theory.....	72
4.12 Credibility of Research Findings.....	73
4.13 Validity: Triangulation and Member Checking	73

4.14 Reliability	74
4.15 The Single Case Selection and Justification	74
4.16 Chapter Summary	78
CHAPTER FIVE	
THE CONTEXT OF SELF-ORGANIZED SPACES AND INFORMALITY IN DAR ES SALAAM.....	79
5.1 Introduction	79
5.2 Planning and Regulations in Dar es Salaam	79
5.3 The Spatial Structure of Dar es Salaam.....	81
5.4 Historical Development of Settlements in Dar Es Salaam.....	82
5.5 The African City in Brief	85
5.6 Urbanization and Transformation of Dar Es Salaam	87
5.7 Management and Development of Roads in Tanzania	89
5.8 The Regulatory Framework and Land Management	90
5.9 Residential Development Approaches – The 20,000 Plots Project.....	90
5.9.1 Space Standards and Services Used in the 20,000 Plots Project	91
5.10 The Land Development Process and the Inevitability of Informal Practices	92
5.11 Land Use Governance and Legislation	94
5.12 Observations of Self-Organized and Informal Street Design in the Pilot Study Settlements	96
5.12.1 Self-Organized Space Use, Richness, Qualities and Interdependencies.....	101
5.13 Major Lessons from the Streets of Dar es Salaam	105
5.13.1 Description of Case Study Area: The Sinza Settlement	105
5.13.2 Housing Development and Financing in Sinza Ward.....	107
5.14 Chapter Summary	109
CHAPTER SIX	
ANALYSIS AND FINDINGS	111
6.1 Introduction	111
6.2 Data Processing and Analysis.....	111
6.3 Findings	115
6.3.1 The Pilot Study.....	115
6.4 Understanding Self-Organized Co-Creation of Commercial Street Spaces	116
6.4.1 Property Owner and Tenant Self-Organized Co-Creation.....	117
6.4.2 Deliberate/Activist Self-Organized Co-Creation.....	117
6.5 Informal and Self-Organized Planning and Design Parameters.	118
6.6 Actors' Interactions in Creating Commercial Streets.....	121
6.6.1 Ownership and Tenancy Structures.....	125
6.6.2 The Structure Employed in the Design and Construction of Commercial Streets.....	126
6.7 Qualities of Self-Organized Commercial Street Spaces	133
6.7.1 Qualities for Sitting, Staying, Standing, and Fostering Activities	134
6.7.2 Richness of Commercial Street Spaces and Tacit Knowledge Employed	138
6.7.3 Self-Organized Diversity; A Catalyst for Interdependencies.....	141
6.8 Understanding the Link Between the Self-Organized Street and Livelihoods.....	143
6.8.1 The Physical Livelihood Assets of Commercial Streets: Linking Self-Organized Spaces with Livelihoods.....	143

6.8.2 The Social Livelihood Assets of Commercial Streets: Linking Self-Organized Interrelations with Livelihoods.....	153
6.9 The Lived Space; The Potentials and Drawbacks of Self-Organized Practices.....	160
6.10 Summary of the Main Findings in This Research	164
6.11 Chapter Summary	164
CHAPTER SEVEN	
SYNTHESIS - KEY OVERARCHING ISSUES.....	165
7.1 Introduction	165
7.2 Overarching Issues.....	165
7.2.1 Complementarities and Tensions in Self-Organized Commercial Streets.....	165
7.2.2 Challenges of Public Engagements	166
7.2.3 Design Inadequacies and Disappearance of Rich and Creative Commercial Street Qualities	167
7.2.4 State -Influenced Participatory Design Approaches and Livelihoods Limitations	170
7.2.5 Explicit and Implicit Self-Organized Practices	173
7.2.6 Space Use, Behaviors, and Responses to Design Inadequacies	174
7.2.7 Informal Co-Design Practices and Nonadherence to Regulations	178
7.2.8 Classical Urban Design Concepts Versus Self-Organized Processes.....	180
7.3 Methodical and Theoretical Reflections	180
7.3.1 Complexity Theory.....	181
7.3.2 Contribution to Theory: Social Production of (Commercial) Space	183
7.3.3 Design Anthropology – the Methodological Contribution	184
7.4 Chapter Summary	184
CHAPTER EIGHT	
CONCLUSION AND RECOMMENDATIONS.....	187
8.1 Introduction	187
8.2 Conclusion.....	187
8.3 Policy Implications.....	191
8.3.1 Acknowledging the Processes, Knowledge, And Skills Inherent in Self-Organization	191
8.3.2 Understanding and Acknowledging the Contextual Qualities as Public Needs and Assets in Urban Spaces	191
8.3.3 Professional Expertise and Procurement of Civil Works	192
8.3.4 Governance: Tools for Supporting Participatory Engagement in the Design and Construction Processes	193
8.4 Recommendations.....	193
8.4.1 Actors' Interrelations	193
8.4.2 Pro-Active Actors' Involvements: Bottom-Top Participatory Design Approaches	194
8.4.3 Contextual Approach in Existing Self-Organized Urban Commercial Streets.....	194
8.4.4 Hybrid Commercial Street Spaces.....	195
8.4.5 Commercial Street Qualities and Complementary Functions	196
8.4.6 Urban Design Approaches for Generating Functional and Sustainable Urban Spaces.....	196
8.5 Further Research Areas.....	197
8.5.1 Qualities of Commercial Streets in Informal Settlements	197
8.5.2 Cohousing Dynamics and Retail Space Design along Urban Commercial Streets	197
8.5.3 Climatic Livability Parameters in Urban Commercial Streets	197

8.5.4 Classification of Roads in Tanzania.....	198
8.5.5 Transformation of Urban Streets	198
REFERENCES	199
APPENDICES	214
Appendix 1: Narratives from Shekilango Road.....	214
Appendix 2: Documentary evidence: letters from residents to authorities	228
Appendix 3: Research clearance letters 2019-2022.....	235
Appendix 3A: Research clearance (2022).....	235
Appendix 4: Interview questions.....	239
Appendix 4B: Guide questions: Empirical Data Collection Phase – 3 (Post – road expansion).....	248
Appendix 5: Data collection methods and respondents’ profiles.	251
Appendix 6: Summary of analyzed plots	256
Appendix 7: Locations and summary of documented and undocumented conflicts.....	262
Appendix 8: Mapping of private transport hire stations along a section of Shekilango road	267
Appendix 9: Aerial views of sections of Shekilango road showing the reduction of green covered commercial street spaces as a result of the road expansion.....	269
Appendix 10: Published Paper Titled: Co-Designing with Scarcity in Self- Organised Urban Environments: A Case of Shekilango Commercial Street in Sinza, Dar Es Salaam – Tanzania.	277

LIST OF FIGURES

Figure 1: The Gottingen commercial street, Halifax - Canada in 1949.....	12
Figure 2: A shopping street in Changsha, China.....	17
Figure 3: Richness of commercial street spaces.	18
Figure 4: A traditional hierarchy of roads: arterial, sub-arterial, collector, and local roads.....	21
Figure 5: Conceptual diagrams of the (a) Monocentric; (b) Polycentric and (c) Strategic alternative road structures for Dar es Salaam city.	24
Figure 6: The conceptual diagram of the structure of the city for corridor developments.	25
Figure 7: Potential business and commercial centers, and new corridors.....	25
Figure 8: Principles of TOD.....	26
Figure 9: Conceptual sketches of the envisaged Manzese redevelopment.	27
Figure 10: The ladder of participation.....	38
Figure 11: The conceptual framework showing the link between the main concepts and the contribution of the research.	44
Figure 12: The conceptual diagram for a self-organized commercial street and its link with livelihoods. .	46
Figure 13: A photo rendering of a commercial street scenario depicting space use and outdoor amenities such as shaded walkways, private and public spaces, and cyclists' zones.....	50
Figure 14: The research design diagram	59
Figure 15: Map of Dar es Salaam. The population and location of areas where commercial streets were selected.	66
Figure 16: (a) The researcher shadowing over lunch and (b) Co-working and interviewing near Makaburini.	70
Figure 17: An interview with Sinza 'A' street/mtaa executive officer at the Sinza A local government office..	71
Figure 18: (a) The location of Sinza and (b) The Shekilango commercial street.	75
Figure 19: (a) The location of Sinza and (b) Shekilango road which connects Morogoro and New Bagamoyo roads.	76
Figure 20: Proposed SUDP city growth and development Vision.	80
Figure 21: Spatial growth of Dar es Salaam from 1945 to 1998.	81
Figure 22: A map of Dar es Salaam, 1941.....	83
Figure 23: The Machinga complex built across Kawawa Road.	88
Figure 24: Important parameters for vending and commercial activities.	94
Figure 25: A Map of Dar es Salaam showing 13 pilot study settlements during the reconnaissance period	96
Figure 26: (a) and (b) A typical street character in Kawe, Dar es Salaam; (c) A street in Keko, Dar es Salaam with furniture outlets and (d) An arterial road in Yombo, Dar es Salaam with informal and formal businesses.	97
Figure 27: Informal businesses along Kilwa Road in Mbagala settlement.....	97
Figure 28: A residential street in Zakiem, Mbagala, Dar es Salaam.	98
Figure 29: Commercial spaces in the Mbezi Beach area Old Bagamoyo trunk road.	98
Figure 30: Commercial activities along Sam Nujoma Road.	99
Figure 31 (a) and (b): Examples of makeshift commercial spaces in Kawe, and (c) Nyarung'ombe Street in Kariakoo, Dar es Salaam depicting survivalist strategies.	99

Figure 32: (a) and (b): A local road in Manzese and a part of a local road in Mbagala.....	100
Figure 33: Commercial establishments along the Old Bagamoyo Road in Mikocheni, Dar es Salaam. ...	100
Figure 34 (a): Left; A typical scene of Msimbazi Street and (b) A common basement commercial space design at Kariakoo.....	102
Figure 35: Old and recently erected high-rise commercial buildings that replaced low-rise African settlement in the colonial period.....	102
Figure 36: Formal high end establishments in (a) an affluent neighborhood (Oyster Bay, Dar es Salaam) and (b) Formal and informal economies in an informal neighborhood (Mbagala, Dar es Salaam).	103
Figure 37: The Morogoro trunk road at Manzese area.	104
Figure 38: Panoramic views of sections of the Haile Sellassie Road, an arterial road in Oyster Bay.	104
Figure 39: A section of the initial layout of the Sinza sites and services site. On the left is Shekilango Road.....	106
Figure 40: A mixed-use plot configuration showing commercial space, residences and veranda	107
Figure 41: A typical plot organization showing commercial spaces in the frontage of the house and residential spaces that were added into the back of the plot.	108
Figure 42: An overall development of a plot from 1974 – 2010.....	109
Figure 43: A map showing Sinza wards and the Shekilango commercial street in orange.	115
Figure 44: A sub-case showing how an owner and tenant developed a plot from mid 1970s to date. ...	120
Figure 45: Dark and narrow alleys within a plot along Shekilango Road resulting from piecemeal construction and nonconformity to regulations.	121
Figure 46: Actors' involvements in the creation and operationalization of commercial streets.	123
Figure 47: Negotiations involving individual and collective actions by users.....	128
Figure 48: Parking spaces provided through actors' self-organized negotiations with authorities.	129
Figure 49: Actor interactions during (a) Transfer of information, (b) Design of and (c) Construction of Shekilango Road.	131
Figure 50: Actors' individual and common interests.....	132
Figure 51: Qualities of commercial street spaces.	134
Figure 52: Social activities.	135
Figure 53: Optional activities.....	135
Figure 54: Multiple uses of the veranda.	136
Figure 55: (a) A cereal shop's interior and veranda layouts. (b) A veranda's multiple functions: display and weighing, and (c) Multiple veranda functions: socialization, storage, selling, and weighing.	136
Figure 56 (1-5): Typical space usage.	137
Figure 57: (Left to right): An outdoor space and walkway encroached upon to accommodate parking space.....	137
Figure 58: Visual qualities of Shekilango street depicting: (a) A hipped roof design with triple clear display windows, black façade and decorative fins on the veranda, (b) and (c): Hipped roof design with triple clear display windows, visible signage, and symmetrical design, (d): Visible signage and clear display design, (e): A gable roof design with a colorful and symmetrical façade with large clear display windows and (f): A tall building with a concealed roof, triple clear display windows, a symmetrical pink veranda with aluminum composite finish.....	139

Figure 59: (a) Images of the different signage types along the Shekilango commercial street and; (b) Electronic signage .	140
Figure 60: sections of the Shekilango road showing functions created through intuition that foster livelihoods.	142
Figure 61 (a), (b), and (c): Section-elevation sketches of variants of the veranda observed along Shekilango Road.	144
Figure 62: Images of veranda types and their uses.	145
Figure 63: (a) Veranda and interior space before space appropriation and 61 (b) Appropriation of the veranda and interior spaces.	145
Figure 64: (Left): Men relaxing outside a spare parts shop under a veranda shade, and (right): A business operator rests under a tree while waiting for customers.	146
Figure 65: Men, women, and children resting and socializing.	146
Figure 66: Optional and social activities.	147
Figure 67: An illustration of parking spaces based on size and organization before the expansion of Shekilango Road	148
Figure 68: Images taken in (a) 2019 before road expansion; (b) 2020 during road expansion and (c) 2023 after road expansion.	149
Figure 69: Bajaj and vehicular parking spaces before the road expansion.	150
Figure 70 (a): A temporary bodaboda and bajaj parking space at Mori and (b) A focused group discussion at Kumekucha.	150
Figure 71: A section of Shekilango road from Bamaga junction to Mori Road showing the location of ten (10) out of the sixty-one (61) investigated plots.	151
Figure 72: Socio-economic networks that support self-organized processes and sustain livelihoods.	154
Figure 73: Informal economies such as juice and food vending and car washing before the road expansion.	156
Figure 74: An informal vendor who also keeps watch	157
Figure 75: Socio-economic network diagrams.	159
Figure 76: (a) The living room space and (b) An attendant sorting out products and attending a customer.	160
Figure 77: (a) Research assistants pictured at the exterior of and (b) The interior of a restaurant/cafe/teria that occupies the setback of a plot.	161
Figure 78: Layout plan of a mixed-use plot.	161
Figure 79: (a) Space appropriation on the floor of the veranda and (b) Space appropriation for vehicular access	162
Figure 80: Typical space appropriation and use along Shekilango Road.	163
Figure 81: The effects of poor engagement of users upon realizing the expansion of the road has neglected essential needs and preferences.	167
Figure 82: A newly constructed 2-floor commercial building at Kumekucha with commercial spaces on all floors.	168
Figure 83: A newly constructed 2-floor commercial building at Sinza Kwa Remmy with commercial spaces on all floors.	169
Figure 84: A pedestrian walks on a tarmac road adjacent to a paved walkway that has been occupied and blocked by business operators.	169
Figure 85: A pedestrian walks on the grass far away from a newly installed paved walkway.	170

Figure 86: Pedestrians walk on sand-covered tarmac adjacent to a paved and elevated walkway.....	170
Figure 87: Plot frontage scenarios of outdoor space before (a) and after (b) the road expansion.	171
Figure 88: A Street section before (a) and after (b) the road expansion.....	171
Figure 89: A section of Shekilango Road in 2015 before the road expansion and after the expansion in 2022.....	172
Figure 90: A U-shaped commercial space design that is gaining popularity in Dar es Salaam.....	175
Figure 91: Private motorcycles for hire park at a walkway near Madukani.	175
Figure 92: A bus stop at the junction of TRA and Shekilango roads is used as a private parking space and outdoor seating area for attendants.	176
Figure 93: Residents sit and socialize under the shade of a bus stop.	176
Figure 94: Informal workers operating a salon seated under a shade tree to avoid the scorching sun and interact with other street users	177
Figure 95 (a) A walkway turned veranda along Shekilango Road near the Africa Sana area and (b) A walkway encroached upon by a food vendor near Kwa Remi.	177
Figure 96: A recently extended outdoor space whose events are captured during two different hours: (a) Evening and (b) Late evening.	177
Figure 97: A recent conversion of Sinza Fast Food parking space to become an outdoor seating area that was frequently used during the holy month of Ramadan.....	178
Figure 98 (a) An aerial view of a section of Shekilango commercial street and 93 (b) A photo of the section showing plots that do not have parking spaces or outdoor space due to over-densification by residents.	179
Figure 99: Possible on-site participatory design interactions for identifying users' needs, trade-offs, compromises, and opportunities and discussing and testing the design and negotiations. ...	188

LIST OF TABLES

Table 1: Road network classification with respect to immediate street land use, movement and size.	21
Table 2: Asset categories of different sustainable livelihoods models.	30
Table 3: Informal Employment	52
Table 4: Data collection methods employed and output	62
Table 5: Data Collection Matrix.....	63
Table 6: Data collection phases	64
Table 7: Studied areas and streets.....	65
Table 8: Selected Areas And Investigated Variables	67
Table 9: Description of criteria for assessing suitability of selected areas	68
Table 10: Stakeholder Matrix	68
Table 11: The Central and Local Government Structure in Tanzania.	71
Table 12: Purposeful Sampling and Plot Selection Criteria	77
Table 13: Space Standards for Residential Plots in the 1997 Regulations	91
Table 14: Minimum Plot Ratios, Setbacks, and Building Lines for Residential Buildings.....	92
Table 15: Codes, Categories and Themes	113
Table 16: The summary of the pilot study and its implication on the main data collection.	116
Table 17: Building scope and actors' involvements.....	124
Table 18: The degree of interactions amongst actors.....	125
Table 19: Ownership and Tenancy Models.....	126
Table 20: Building Permit Applications and Involvement of Professionals and Contractors	127
Table 21: Veranda Types and Variants	143
Table 22: Blockage of Access and Parking During and After Road Construction	151
Table 23: Status of Zones and Qualities of Commercial Street Spaces after Road Expansion	152
Table 24: Priority of Livelihoods, Activities, and Special Zones.....	152
Table 25: The Main Findings and Reflections	164
Table 26: How the Findings Respond to the Research Questions	190

CHAPTER ONE

THE STUDY

1.1 Introduction

This section serves as an introduction to the study subject. It highlights key areas including self-organization (e.g., through social networks and informal design practices) and participatory design approaches in the creation of commercial street spaces in urban areas. The self-organized processes and qualities stem from either a genuine effort to generate urban commercial spaces that meet the needs of various users by overcoming the scarcity of amenities and public spaces in urban environments or from reactions to top-down spatial development approaches. Another key area is livelihoods, which appears not to have been adequately understood and acknowledged in top-down decision-making processes in urban Africa. These key areas are investigated, and reflections on how they can inform African urbanism and spatial planning are highlighted.

In addition, the chapter brings into light the strengths and weaknesses of self-organized environments and based on what other scholars have studied, it identifies gaps that this study fills, in particular, self-organized commercial street qualities that need to be tapped into and critically analyzed to obtain more nuanced perspectives using appropriate and context-responsive participatory approaches.

It further states the problem statement, main objective, and outlines the specific research objectives and research questions. It provides a comprehensive discussion and proposes a framework upon which the research is based.

Informally created spaces seem to be endowed with qualities that policymakers, professionals, and authorities, among other actors, can tap into to complement the top-down approach used in the planning and design of cities. This research intends to document and analyze this knowledge as a resource for the various actors involved in spatial planning and design. This will, in turn, aid in gaining a deeper understanding of inherent urban spatial development processes in specific contexts so that contributions of key actors, such as property and business owners, can be integrated in future developments.

According to WB (2002), in the context of Tanzania, in-depth community consultations are not frequently conducted during road design and implementation. Okello (2013, p.3 & 7-9) describes transformed road infrastructure in Nairobi, Kenya, as reductionist since it overlooks the needs of street users. He points out that key professionals, such as designers and urban sociologists, are often excluded from urban road developments. Singh et al. (2023) and Jagtap (2022) discuss many barriers to co-design in contexts facing scarcity, including a lack of co-design skills, resources, trust (often due to prior negative experiences communities have had with various agencies), literacy, gender, alignment between project aims and needs, and time. Such factors may render time-consuming participatory design methods difficult in these contexts.

Mercer (2016, p. 12) notes that traces of informal rural characteristics are evident in postcolonial suburbs in Dar es Salaam, indicating that historical and cultural influences shape the creation of space. The suburbs, according to her, are intertwined with rural spaces, which are evident in the spontaneity with which private and public spaces are appropriated, used, and shared. The generation of such spaces suggests that tacit knowledge and informality drive and direct spatial development in Africa. Dampney et

al. (2007) define tacit knowledge as a component of knowledge comprising skills and know-how held by individuals and residing within their minds, behaviors, and perceptions. It encompasses skills, experiences, insights, intuition, and judgment shared through discussion, analogies, and interaction among individuals.

This knowledge, along with aspects such as rurality and informality in African cities, notably Dar es Salaam, remains unanalyzed and unacknowledged by professionals and policymakers alike. Ann et al. (2022) argue that there is scant knowledge on retail flows on a global level, even in data-rich areas. This may overlook essential attributes such as the frequency of use of spaces and motorized as well as non-motorized behaviors in commercial spaces. In urban Africa, where most decisions are based on intuition, top-down spatial development projects may miss the aim without understanding the tacit knowledge employed on the one hand. On the other hand, since this tacit knowledge is mainly informal and sometimes violates regulations, it may threaten the sustainability of urban commercial streets. A gap emerges related to how users and authorities can interact to inspire and learn from each other.

The decisions that residents make on the spaces they occupy reflect their daily livelihood needs (Anyamba, 2006). With little or no involvement of professionals, such choices may lead to deficient spaces. Okello (2013) further stresses that good urban form calls for heterogeneous and antagonistic agencies and residents. Further, he brings forth "the negotiated space," which is continually animated by the cycles of urban life and the mobility of humanity. According to him, this space is unpredictable and is difficult to design using conventional design tools. In that respect, self-organized spaces pose an important question on how to first, decode unique African features that are informally generated by residents in areas that are governed by authorities, and second, how to bring the key actors together (users, authorities, and professionals) to integrate these self-organized qualities in a sustainable manner.

1.2 Study Background

Discussions on the African city have largely focused on material infrastructure, in which the central issue in western discourses is on planning, engineering, and sanitation (De Boeck et al., 2015). Understanding the users of space has seldom been the main discussion. This argument is supported by Van Wolputte et al. (2022), who note that there is an increasing inequality in planning interventions, resulting in a growing gap between urban planning and the daily lived experiences of residents. According to them, among other factors, the absence of participatory urban planning strategies is a key reason behind the gap. According to Carmona (2014), when it comes to commercial streets, universal problems include traffic growth, investment in infrastructure to support vehicular movement, and neglect of the streets' inherent qualities among local policymakers, businesses, and professionals.

In Tanzania, Kazaura et al. (2017) argue that land use changes along roads lead to challenges associated with traffic since traffic impact assessment (TIA) is not conducted. This suggests that spatial development proposals are implemented without a thorough analysis and understanding of traffic flow, spatial requirements, and traffic dynamics. With the top-down planning approach prevalent, users of such spaces are seldom the subject of discussion, resulting in urban developments that often fail to respond to their everyday needs. On the contrary, authorities/professionals and users work independently. Van Wolputte et al. (2022) emphasize that a tension exists between the life realities experienced by millions of urban dwellers and the urban future visions that the state and urban planners/designers appear to share. Through a study that focuses on the qualities of spaces through people's behaviors in self-

organized spaces, it is revealed that scholars continually emphasize the importance of understanding material and social infrastructures, which tend to focus on local actors (Van Wolputte et al., 2022).

Studies have shown that most urban studies are still built on theories based on US or European cities, in which non-Western cities are measured by the models and metrics of the West, which is often regarded as the universal model (Myers, 2011). According to Simone (2010), there has been a tendency to view African cities as cities in need of something that is not already present. The cities are thus characterized by a wide range of deficiencies that dominate the images that represent them. Subsequently, these shortcomings subject African cities to policy interventions, investments, and rectifying discourses which are meant to act as corrective measures (Mercer et al., 2003).

According to Simone (2006), forms of authority that were once relied upon increasingly fail to understand how daily life happens. Since cities grow and are continually shared by people from different walks of life, Simone (2006) stresses that there are always challenges in considering how each is addressed or how possibilities for some form of common future can be struck. These trajectories, according to him, can be achieved by understanding residents' meanings, vantage points, experiences, and ways of talking, among other factors. It is also fair to say, according to him, that the majority of African cities remain spaces where the social characteristics usually associated with rural existence persist. Here, Simone (2006) highlights two important aspects in understanding the qualities of spaces in the African city context. First, in understanding meanings, experiences, and social networks, it is important to investigate how residents respond to and use the available spaces and the self-organized spaces they create. Secondly, is the issue of positioning the activities that spontaneously take place, given that much of the available literature mostly highlights deficiencies in African urban environments. This study, thus, illuminates the inspiration of self-organized spaces as they achieve local socio-cultural values while simultaneously reflecting western qualities championed by urban theorists as desirable qualities of commercial streets.

Streets in residential areas undergo continuous transformations that may lead to the introduction of new functions, forms, economic and social cultural values. For instance, new functions, including public spaces, commercial establishments, or forms of new spaces that are more useful and responsive to changing needs, users, and external forces, may emerge. According to Jacobs (1974, p.244), incorporating non-residential uses in residential areas does no harm and is positively necessary. Bars, theaters, clinics, businesses, and manufacturing are amongst the functions that seem essential for cross-use, supporting other diversity, or because they contribute to safety. Gehl et al. (2006, p.87) argue that when deciding on the nature of edges (streets) in a residential context, cultural and socioeconomic dimensions must be added. This is based on studies worldwide, in which forces such as demographics and lifestyle changes have been identified as key determinants of the character of a street. Such dimensions can be added through participatory approaches by studying and understanding low-key initiatives that surround the commercial streets.

According to Roy (2005, p. 150), referring to upgrading schemes by planners in the United States of America, the key concern in plans set to include people who are marginalized is that the focus (set by the wrong people) is on the physical environment, termed "aestheticization of poverty." This research does not aim to propose measures that merely aestheticize or partially improve existing spaces, as user-generated spaces may have deficiencies that need to be identified and analyzed. The idea is thus to understand user-generated spaces in-depth in order to propose measures that reflect their reality.

Iossifova (2013) argues that when working with urban environments that have scarce resources and genuine residents' intentions to overcome them, the idea is to work with what one has, making more out of less by reducing resource use and utilizing existing resources rather than adding more. To make such an approach sufficient, Till (2009) argues that one must listen and be fully alert to understand the productive value of design in the context of scarcity. He underlines that scarcity enables us as designers to think beyond the object, beyond adding stuff, and endless growth.

This justifies the need to understand actors' contributions to aspects such as livelihoods within commercial streets, in order to inform urban planners and designers on approaches that reflect reality. According to Rankin et al. (2015), urban studies have largely overlooked commercial streets that provide affordable goods and services in urban neighbourhoods, even though they offer vital economic and social functions. In support, Farrington et al. (2002) argue that the literature on livelihoods focuses primarily on rural areas in which the main subject is the rural poor. Other studies have focused on peri-urban livelihoods (Ricci, 2012; Mercer, 2016) where the main subjects include economic activities, land use, and population. This leaves the livelihoods of urban areas largely unacknowledged and, therefore, vulnerable to interventions that may impact their sustainability.

In developing countries, Tanzania in particular, the resulting (commercial) spaces along streets and roads are endowed with qualities such as diversity and richness in to name a few. Such qualities seem recurrent in the built environment in urban areas and seems to involve various actors in their conception and creation. There appears to be an exciting blend of activities and interaction within the commercial street that raises questions regarding how they are generated and what happens in them. Another critical question is why residential streets transform into vibrant commercial streets the way that they do. This calls for an understanding of the formation processes and ways through which the various actors can interact in designing future cities. This phenomenon is the subject of this thesis, particularly the dynamics, space generation processes, actors interactions, participation, and livelihoods in commercial streets.

The case study, Shekilango Road, in Sinza, Dar es Salaam, had been developed and shaped by users since the mid-1970s (Vedasto et al., 2013). It was transformed from a residential to a popular commercial street with many retail shops. Shekilango Road, which connects two trunk roads (Old Bagamoyo and Morogoro Roads), was expanded through the Dar es Salaam Metropolitan Development Project (DMDP) and was funded by the World Bank. Other roads include Akachube, Mori and Igesa. The project involved expansion of the road into a double two-lane road along its 3.7 km distance from Bamaga area (Old Bagamoyo Road) to Morogoro Road. It began in 2020 and ended in 2025. The major aim of DMDP is to facilitate transport services through alleviation of congestion, supporting public transit and mobility, and connectivity for residents in low-income communities.¹ However, the expansion of Shekilango did not adequately tap into the forty five – year old transformation.

According to a study by the UN, more people live in cities than in rural areas as of 2010. The UN also estimates that the number of urban dwellers could rise to 66% of the total world population by 2050 (United Nations, Department of Economic and Social Affairs, 2014). This rapid growth calls for stringent measures in incorporating urban dwellers into the planning and design of cities, as they are an integral

¹ <https://legacy.ippmedia.com/en/news/>, accessed 1345 hrs, 22/08/2025.

part of urban environments. According to Meikle (2011), formal PPPs (Public-Private Partnerships) still account for the majority of construction work in developing countries. However, this is irrespective of the fact that it may be partially self-built or built without full permission; in most cases, it will still be more or less indistinguishable from formal construction (Meikle, 2011, p.4).

Informality in the built environment is discussed on two levels; (1) the informal processes leading to the creation of commercial streets and thus work spaces and more particularly their self-built and appropriated nature and the potential for architects to tap into them through participatory design processes and (2) the informal economies which in turn influence job creation and micro economies contributing towards the livelihoods of urban dwellers. According to Wibisono (2001, p. 72), this type of activity often develops in streets that lack basic facilities. Still, it generates and accommodates social activities such as street vending, spontaneous entertainment, and various informal services.

Villain (2011) conducted a study aimed at providing a deeper understanding of how commercial streets function within cities, emphasizing the significance of the built environment and spatial structure in explaining the dynamics underlying local commercial streetscapes. The link between commercial streets and livelihoods, self-organized practices, and the inherent spatial qualities was not, however, covered in this study. The qualities of commercial streets are one of the gaps that this research intends to fill in by observing and analyzing users' behaviors in self-organized commercial street spaces.

Moshi (2009) examined the role of spatial qualities by documenting and analyzing problems associated with informal design processes, such as unregulated or uncoordinated spatial redevelopment. They include dysfunctional urban environments, uncoordinated fabric, poor ventilation and light, inadequate parking spaces, noise, and air pollution, amongst many other problems. He also considers the poor landscape and aesthetic value, as well as increased pressure on space for trading. These are amongst other problems resulting from the informal design by citizens of the former upmarket residential apartments into commercial, institutional, and other uses. These are captured in the Oyster Bay and Masaki redevelopment scheme (Kinondoni Municipal Council, n.d., p.8).

The Oyster Bay and Masaki scheme suggests that even though informal design processes are created based on users' preferences, they have shortcomings. This study does not intend to sugarcoat residents' self-organized practices. Instead, it also discusses the drawbacks that result from residents' actions that are neither in line with development regulations nor consider expert advice, which can help to mitigate technical problems. This is why the study also delves into the knowledge potential of participatory approaches to issues related to informal design processes, such as self-organization and space appropriation.

1.3 Motivation for Studying Commercial Streets in Dar Es Salaam, Tanzania

I took an interest in understanding the concept of commercial streets in Dar es Salaam since 2014, after realizing, as an academic and architect, that there might be more than what we see in the vast commercial streets that the city of Dar es Salaam has. It was vital to understand first, the nature of the dynamics that are transforming cities in Africa, second, the opportunities and challenges of the qualities achieved, and third, livelihoods sustained and how participatory design can be tailored in this context in view of users' contributions. This information can inspire and contribute towards the planning and design of future cities that respond to everyday realities as well as inform future participatory approaches.

Having lived in Dar es Salaam for over 35 years, worked as an academic and architect for more than 18 years, and walked and driven along many of the city's streets, I could not help but notice a few things. It always struck me that there is a significant concentration of commercial spaces and a continuous transformation, mostly from residential to commercial uses. Secondly, the commercial spaces bring life to the streets and are vibrant places to be. What is particularly concerning is that most of the developments appear to have occurred with little involvement from professionals, while some regulations have not been adhered to. It seemed as if non-professionals use intuition to achieve desirable and pleasant street qualities. Property owners use the house frontage for commercial space, or build commercial (mostly retail) spaces referred to as 'frames' immediately inside the front boundary of their plots. In addition, the spaces, with different activities both social and economic, encourage staying and sitting, and have pleasant physical and visual features.

The issue questions that surface based on the observations I made over the years are:

- How can professionals and relevant authorities tap into informal design and self-organized processes employed in generating streets?
- How do the processes, factors, and efforts create meaningful interpretations that can inform relevant theories?
- How can the interpretations of the theories based on actors' interventions help to illuminate the potential of self-organized commercial streets in order to improve policies for the design and planning of more participatory models in future cities?
- In the African context, how can we analyze and understand livelihoods and the character of commercial streets as emerging concepts for the design of future cities?

Transformation patterns within the streets suggested that multi-level actors were involved and that self-organized concepts, intuition, and tacit knowledge were paramount, seeming to be geared towards supporting the livelihoods of urban commercial street users. The self-organized processes and qualities achieved seemed worth analyzing and understanding to inspire future spatial development approaches and inform more actor involvement. As the processes seem to be informal, the burning question was always, *"Can, and how do we as professionals and academics tap into this knowledge as a resource for participatory approaches and planning and designing our future cities?"* Most importantly, there is concern about current interventions to existing streets when, for instance, upgrades or improvements need to be carried out by the state. If the benefits of tacit knowledge are not well understood, urban developments intended to improve urban environments can, instead, lead to their ruination (Tsing, 2017). It became apparent to understand why, how, by whom, and for whom these processes occur, in order to inform how top-down urban processes in existing urban environments can reflect everyday realities.

1.4 Problem Statement: Analysis of Tacit Knowledge in Qualities and Self-Organized Processes

Studying commercial streets in-depth reveals self-organized qualities and processes by users, often in ways that support their livelihoods. Despite these processes and qualities supporting livelihoods, as they do not always involve professionals or authorities, some of these processes may also threaten the quality of spaces and livelihoods. It is assumed that residents have tacit knowledge that they employ in generating these spaces, leading to amenities and qualities related to richness in terms of space use, window display qualities, and visual appearance. The tacit knowledge, actors' interactions, self-organized processes as well as the qualities of spaces generated through tacit knowledge have not been critically

and sufficiently explored and linked to urban livelihoods. This is the first gap that this research intends to fill.

When studying available literature related to urban development in sub-Saharan Africa, which largely follows top-down processes, one may think that the immediate and most appropriate solution is participatory design. A clear knowledge gap is observed. A deeper understanding of these self-organized qualities and processes is missing. This understanding is vital in developing a participatory design approach in situated ways, adapted to the specific context of Tanzania, rather than copying or imposing Western approaches. Therefore, there is a need to explore further and analyze the qualities and interactions of the various actors in the process of generating rich spaces along commercial streets, complementing the more top-down approach.

This research is thus an inquiry into the self-organized processes, actors, and qualities of the commercial streets in Dar es Salaam city. This research, therefore, aims to generate knowledge and information necessary to understand self-organized commercial streets and ultimately inspire and inform planning and design, as well as encourage more active involvement by actors in generating commercial streets. The knowledge generated will also critically question policies, practices, and theories that relate to urban design and hitherto understanding of African urbanism.

1.5 Main Objective

The main objective of this research is to analyze actors' interactions and self-organized processes in generating commercial street qualities to inspire planning and design of commercial streets, and inform participatory approaches tailored to the context of Dar es Salaam, Tanzania.

This research aims to propose participatory design approaches that tap into actors' interactions, self-organized processes, and qualities that are achieved by users primarily for supporting their livelihood activities.

The specific objectives are:

- To identify actors and analyze their interactions and self-organized processes in generating commercial streets.
- To explore and analyze the qualities of self-organized commercial streets and how they can inform and inspire future planning and design of urban commercial streets.
- To propose participatory design approaches that tap into actors' interactions, processes, and qualities of self-organized commercial streets in the context of Dar es Salaam, Tanzania.

1.6 Research Questions

- How do actors interact and generate self-organized commercial streets?
- What are the qualities of self-organized commercial streets in Dar es Salaam, Tanzania, and how can they inspire and inform future planning and design of urban commercial streets?
- How can we develop participatory design approaches that tap into actors' interactions, processes, and qualities of self-organized commercial streets?

1.7 Significance of the Study

The 2022 urbanization statistics in Tanzania indicate an average annual growth rate of 3.2%. The annual GDP in Tanzania Mainland has been growing at an average rate of 5.7 percent from 2018 to 2022 (URT, 2022). According to the same report, Dar es Salaam is the leading city with the highest annual GDP. According to Bahendwa (2013, p. 9), multifaceted actors play a significant role in the transformation of cities. This type of spatial development in rapidly urbanizing cities in African countries, such as Dar es Salaam, is associated with failures of the conventional urban spatial planning and design to regulate urban development effectively. This triggers informal and self-organized processes by residents, which lead to rich urban spaces.

The study demonstrates how tacit knowledge, facilitated through self-organized processes, can lead to the development of rich urban commercial street spaces. The study shows how the resulting qualities and space use can inspire planners and designers. Lastly, the study proposes policy improvements to ensure that future spatial development projects actively and sufficiently involve key stakeholders, thereby addressing the needs of both residents and policymakers.

This study is positioned within Sustainable Development Goal No. 11 with the agenda "*Make cities and human settlements inclusive, safe, resilient and sustainable*" and target 11.3 (To enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries by 2030).²

In addition, this study is relevant within the same SDG framework in that it addresses the need for actors in the creation of commercial streets to be more actively engaged in the process. This reflects the 2016 Habitat III conference, which highlighted the need to develop national and local guidelines for the growth and development of cities through 2036.³

This study demonstrates how becoming an active participant in various businesses and residents' interactions, as well as studying and analyzing everyday activities of residents, can enable a researcher to gain a deeper understanding of actors' interrelations and space use. This process can reveal more information and data when complemented by methods such as interviews and observation when dealing with respondents who are fully engaged in their livelihood activities. Phone call interruptions, serving customers, and daily interactions not only limit the amount of data and information a researcher needs but also make the inquiry longer and less focused. Such an approach is crucial when dealing with residents who are too preoccupied with their livelihood activities to participate in participatory design sessions or interviews.

1.8 Research Limitations

Literature on residential streets, particularly those with a commercial nature in urban Africa, is scant. At the global level, the conceptualization of commercial streets takes a different perspective. Main shopping streets in the city center or formally planned commercial streets have been the primary focus in the available literature. There are numerous studies on streets, but they mainly address global agendas and issues such as mobility, safety, planning and design standards, landscape, and streetscape, to mention a

² Source: https://sdgs.un.org/goals/goal11#targets_and_indicators

³ <https://sustainabledevelopment.un.org/topics/sustainablecities>. Accessed 29.02.2020, 22:02

few (UN Habitat, 2013; Levinson et al., 2007).

Most of the available literature focuses on poverty-related, political, and popular aspects related to streets and livelihoods, such as informal vendors (Babere, 2015; Racaud et al., 2018; Ligthelm, n.d.; George et al., 2022). The informal spaces, their qualities, and livelihoods, which make up a large percentage of how streets take shape in urban Africa, receive less attention and remain largely unanalyzed (Rankin et al., 2015). Literature has, however, addressed issues closely related to how residential streets in the African context are designed to achieve pleasant user experiences and functionality. In that respect, the study has relied on literature on informality and concepts such as scarcity and abundance to complement a conventional conceptualization of commercial streets in the West. This has made it possible to reflect upon the qualities of commercial streets created by non-professionals in Africa against those that are created by professionals in the West without imposing qualities of either one on the other.

CHAPTER TWO

QUALITIES, ATTRIBUTES AND ASSETS OF URBAN COMMERCIAL STREETS

2.1 Introduction

This chapter introduces and discusses commercial streets. It defines the term “commercial street” and further discusses its historical development, attributes, and qualities. It further discusses the classification of roads to illustrate the relationship between traffic flow, land use, street design, and commercial activities. It also discusses “commercial street space” and the future design approach of commercial streets in Dar es Salaam. The chapter also presents a summary of the main lessons regarding the observed gaps. Since residents shape commercial streets to support their livelihood activities, this chapter introduces the concept of sustainable livelihoods (SL). It discusses the livelihood assets of commercial streets as a component that needs to be acknowledged. Thus, it also discusses the types of spaces that foster livelihoods and various activities of urban residents found along commercial streets. It is assumed that an understanding of the spaces and qualities of commercial streets that are universally acknowledged can illuminate the importance of integrating self-organized commercial street qualities that are brought to life via tacit knowledge in formal spatial development processes.

2.2 The Evolution and Development of Urban Commercial Streets

According to Ghazi et al. (2019), since ancient times, liveable streets have offered opportunities for people to engage in commercial, social, and recreational activities. Whyte (2012) contends that streets are the streams of life of the city. According to Gehl et al. (2006), streets are the fundamental part and beginning of cities. Travelers journeying along pathways interacted with vendors with wayside booths who were trying to sell their wares. Over time, the booths evolved into shops, and the paths became streets. The exchange between the travellers and the traders and the permanence of the latter are fundamental in the creation of streets. This historical formation illustrates the close relationship between trade (land use) and movement channels.

In a study on Gottingen Street in Halifax, Canada, which underwent a transformation from a residential to a commercial street between 1830 and 2010, several factors were observed. Economic conditions, population growth, residents' choices, and political decisions are a few (Roth et al., 2015, p.38). Here, Roth et al. (2015) suggest that residents have a share in developing streets that they use for their day-to-day needs. As far as the growth of retail spaces is concerned, along with economic conditions, the emergence of such streets is also in response to changing population patterns, consumer tastes, and transportation patterns (Ibid). In view of the transformation of Nieuwe Binnenweg street in Rotterdam, Boonstra et al. (2001) argue that, through small talks, organized meetings and copying behavior can enable a dynamic process of transforming and configuring the socio economic parameters of the street. This leads to pop-up shops, coffee shops, snack houses and adds value to the wider urban context (Ibid).

Despite policies meant to protect the inner city's retail businesses, by the 1950s, the newly established retail street drew the attention of both small and large-scale retailers. Improvements in the means of transportation and increased access to cars resulted in the shift of businesses from the CBD to Gottingen Street (figure 1). Between 1896 and 1920, commercial spaces along the Gottingen Street included small shops, a department store, a butcher, a grocer, a dry goods store, and a crockery shop (Roth et al., 2015, p.42). This suggests that land use changes, which, in most cases are initiated and generated by

residents, are based on the everyday realities of life. It also indicates that such realities need to be analysed and understood in observance of the particular context.



Figure 1: The Gottingen commercial street, Halifax - Canada in 1949 (source: Roth et al., 2015).

In the United Kingdom, the term 'high streets' has been used to define the main commercial streets in cities, but it has later been collectively applied to all streets with a commercial nature that are not necessarily in the central business district. In the US, Ireland, and Canada, the equivalent is 'Main Street'. Other terms that have the same meaning from different places include Market Street, Rue Principale, Front Street, Fore Street, King Street, Queen Street, and Hoogstraat (Carmona, 2014, p.3).

From a historical perspective, the high street was based on cultural identity and appeared functional in socially stable communities. They served as commercial hubs where people could step in post or receive mail, read in the library, go into a shop, or have a spontaneous gossip moment and interact with neighbours at the bus stop (Ibid). Commercial streets of this nature first appeared in the 19th century, during the industrial era. The key role was to offer basic services to the people conveniently.

Due to changing lifestyles associated with the post-industrial city, the attention of main streets as commercial streets shifted to the suburbs. The rise of out-of-town retail, the demise of independent retailers, and the increase in car ownership are factors that have taken away the autonomous commercial role that main streets once played. Restructuring that had to take place to accommodate the needs of the urban dwellers left main streets with the following challenges and outcomes:

- Diversification of services: personal consumer services, financial services, leisure services, medical services, business and government services.
- A change in perception of the main street, no longer making it appear as the only exclusive shopping area.
- The rise in rental prices for retail spaces within the main streets.
- Increase in general mobility and income made it possible for people to decide when and where they shopped (Carmona, 2014, p.3-4).

These forces have caused changes and a downfall for the main street. Recent studies have further questioned the fate of main streets in an era of a very dominant and fast-growing internet retail revolution (Ibid). Carmona (2014) further stresses that local high streets foster the development of their

nearby areas. This was a result of a study on established main streets outside London city; the key recommendations included parking and specialist roles by every street. These arguments suggest that informal or self-organized streets, particularly in contexts where informality is paramount, will continue to prosper. In that sense, they will need to be designed with and not against.

According to Ghazi et al. (2019), the current global trend is towards vibrant streets that meet the needs of people, such as food, basic safety, beauty, cultural impressions, and a sense of belonging to a community or place, encouraging people to stay longer. This trend followed two conflicting approaches of the 1950s, one of which was to increase the capacity of streets to accommodate rapidly growing populations and motor vehicles. The other approach was to have diverse streets that could accommodate various public transportation options and a well-developed pedestrian network. The latter approach disregarded vehicular use.

In the US, in the mid-20th century, major shopping, offices, theaters, and government services were concentrated in the central business district (CBD). Grocery markets and convenience stores were found in neighborhoods. This type of planning changed in the 1960s, when roads from downtown to the new suburbs were widened, giving birth to the commercial strip, which became the universal standard for suburban retail development. It was characterized by low-slung commercial buildings, front parking lots, and tall signs. This was in response to the new automobile dominance and modern architecture. This led to the decline of downtown areas as newer suburban cities often lacked traditional downtown centers. As crucial as the strip seems to be in the 21st century, underperforming retail stores in some towns call for interventions on American commercial streets (ICF International et al., 2010, p. 1).

According to Verhetsel et al. (2022), the retail landscape has changed from a centralized to a fragmented and complex one due to changes in consumers' behaviours and technological as well as organizational developments. The landscape, which continually changes, started from the city center's specialized malls to urban supermarkets and, more recently, to distribution centers and home delivery options. Verhetsel et al. further argue that to identify new retail landscapes, it is vital to understand the inherent dynamics through a method termed '*community detection*'. This method involves a description of how the landscapes developed over time. It also captures the complex consumer behaviours that can inform essential considerations in the development of retail spaces.

According to Priyan et al. (2017), streets are the lifeblood of communities and play a major role in urban economics. Not only do streets make up a significant percentage of all public space in urban areas, but they also foster business activity, serve as a front yard, and offer a safe place for people to get around, irrespective of the mode of transportation. Streets also have a multifaceted role in our cities (Ibid, p. 127). Priyan et al. capture three significant functions of streets very well: economic, public value, and safety. According to UN-Habitat (2016), streets are vital for day-to-day interaction, and as a structural element, they shape urban form. Also, when sufficiently supplied with space, they contribute to improved connectivity, which in turn fosters economic development. Priyan et al. (2017) further elaborate that only between 6-12% of space is allocated for streets in developing countries, while it averages 29% in developed countries. This suggests that in urban Africa, given this small share of street spaces, more studies are needed to address what is at stake during government-led developments so that they do not threaten user-generated qualities that foster economic activities, public values, and safety.

Recent studies have emphasized liveability and sustainability in planning and designing streets, and have challenged the vehicle-influenced approach, and encouraged public activities (Elrawy et al., 2024; Cramer-Greenbaum, 2021). Commercial streets with wide pavements, playgrounds, cafes, and play areas, perform better. When planning and designing commercial streets, when public safety, convenience, and socialization are considered, they fuel liveability (Elrawy et al., 2024). Other important considerations are connectivity and green infrastructure. Commercial streets are developed through frameworks that are based on aspects such as regulations and culture (Ibid). These arguments might suggest that violations may threaten the performance of commercial streets and cultural traits play an important role in planning and designing of commercial streets.

2.3 Commercial Street Space

According to Carmona (2014, p.3), in London, 'high streets' was a term that described commercial streets that were found only in the CBD but was later adopted to streets with a commercial character in different locations. In the context of this research, commercial streets can be defined as streets with numerous businesses, including department and convenience stores, restaurants, and other small, medium, and large-scale retail and wholesale spaces that serve public, social, and leisure activities (Roth et al., 2015). They comprise commercial spaces that depict survivalist or urban coping strategies, as well as the creation of wealth (Anyamba, 2006). The indoor and outdoor spaces may be formally or informally generated and operated by different actors, thereby influencing livelihoods and the planning and design of streets. Irrespective of the location, be it a major highway or a local road in a residential section, the dominance of commercial activities will make the street, path, or road a commercial street. The spaces generated offer social, economic, and income generation opportunities.

2.4 Qualities, Design and Features of Commercial Streets; In Search of Western Formal Attributes

Comfort, convenience, safety, security, and accessibility appear to be the most frequently cited qualities associated with user-friendly streets (Carr et al., 1992; Carmona et al., 2003; Burton, 2006). Comfort refers to the calmness, welcoming nature, and pedestrian-friendly character of streets. Comfortable streets offer choices without mental or physical chaos (Burton, 2006; Rahman et al., 2016). Safety enables use, enjoyment, and movement without fear of tripping or falling, being attacked, or run over (Jacobs, 1961). Accessibility enables reaching, entering, using, and navigating places in a well-connected manner among people, services, activities, and the like (Lynch, 1981; Burton et al., 2006; Rahman et al., 2016).

In a study on informal retail spaces in South Africa by Ligthelm (n.d.), three typologies of spaces emerged and were the focus of the study. The typologies are based on general appearance, size, function, location, and purpose, among other characteristics. The first is *Hawker tables* or street vendors, which operate from temporary or permanent structures on streets, at taxi ranks, or train stations; they can also be found on roads and highways, depending on the locality. The second typology is *Spazas* or *tuck shops*, and are defined as businesses operating in the vicinity of residential settlements or any other structure on a stand, zoned or used for residential purposes, and where people permanently live. The third and last is *Township general dealers*, which are stand-alone businesses with permanent building materials, such as brick or block and mortar superstructure, often located in a business area but

sometimes in residential areas. They are characterized by a broader range of products and have more fixtures and fittings to facilitate a self-service shopping experience (Ligthelm, n.d., p. 41). In urban commercial streets of sub-Saharan Africa, such spaces co-exist with each other and with residences. Depending on the scale, general township dealers are often constructed as permanent structures in observance of regulations. These are related to permanent structures for commercial spaces in the context of Dar es Salaam. Spazas and tuck shops can be related to temporary structures for informal businesses that co-exist with permanent ones. The study, however, has not discussed qualities, multi-use character, or self-organized processes leading to their coexistence. In the developing world, streets continue to function as rich public and recreational spaces (Mehta, 2013). This function is supported by informally created spaces such as verandas and outdoor amenities that encourage the presence of people and social activities. Diverse retail spaces and other informal activities coexist and depend upon one another for livelihood needs.

According to Gehl (1987), when dealing with urban environments, quality is defined as the requirements for walking, standing, sitting, and staying through elements, finishes, and furniture that encourage the presence of people and offer a sense of safety and protection from climatic conditions. As public spaces, streets serve other purposes apart from carrying wheeled traffic and their sidewalks; the main public spaces of a city are its most vital organs (Jacobs, 1974, p.39). Streets bring people together in a private social fashion in that people who do not intimately know each other meet and, in most cases, do not care to know each other (Ibid, p.66).

On challenging the design of Manhattan - New York, Jacobs questions the relevance of isolated blocks that are as long as 800 feet, which one has to walk against to reach shops. This, according to Jacobs, makes no social sense (Ibid, p.191-192). Jacobs also takes note of the importance of commercial spots, distribution, location, economic opportunity, and public life when designing functional urban blocks. Jacobs objects to city planning interventions that tend to regard mixed use as a predicament. According to her, planning authorities should seek ways to support the growth of mixed-use streets since they represent a complex yet highly developed form of order. She further challenges and argues that the desired practices by planners tend to be monotonous and have similar characteristics that make them dull. They also lack natural announcements of direction and movement achieved by having diversity in mixed-use streets (Ibid, p.236).

Residential streets can accommodate a variety of commercial and working uses that blend in well if there is a visual balance between residences and the different uses, and if the scale is balanced (Ibid., p. 247). An instance of this can be seen when a street is composed of frontages with smaller spaces, as opposed to when there are smaller spaces and one out-of-scale space, such as a supermarket. According to Jacobs, this ruins the visual appearance of the street. Streets with a single dominant function, such as clothing retail streets, are likely to decline in the long run as their popularity wanes over time, becoming deserted and overlooked by people with purposes other than shopping. Here, Jacobs insists that diversifying streets in terms of functions is vital for sustainability. Through engaging in informal processes to create wealth and subsequently enlivening streets, new functions can emerge and influence the introduction of others. It is thus vital to zone streets to avoid the dominance of a single use on a single street. This will help to create a blend of closely related spaces with respect to visual characteristics and scale (Ibid, p.250). According to Jacobs, city planning has the responsibility of developing public policy and embracing unofficial plans, ideas, and opportunities. This should go hand in hand with the nurturing

of public enterprises (Ibid, p.256).

According to (Gehl et al., 2006), the ground floor is where urbanites (the town) meet the building and is the closest encounter between the two. In this sense, we should be touched by them just as much as we should be able to touch them. Gehl also points out that the kiosk (small temporary booths placed in areas with high foot traffic)⁴ should satisfy our social needs of standing next to it, touching it, walking past it and pleasantness when looking at it. This describes the aesthetic role of a commercial entity within a street in impacting and being responsive to social and cultural experiences of users and passers-by.

According to Jacobs (1993), the richness of the pedestrian experience is one of the crucial elements of successful streets, which is achieved by having a balanced rhythm of opportunities. The rhythm is reflected in the number of elements such as doors, columns, shop windows, display details, signs, and decorations. The experience of walking is given a better dimension when displays and other features are carefully crafted. Other senses also provide a unique experience when the street offers opportunities for engagement. Smells and things to touch along streets play a key role in defining streets and enhancing user experiences (Gehl et al., 2006, p.30).

Gehl further describes a vital phenomenon related to viewing angles and distances. We see or glimpse straight ahead and to the sides, almost 90 degrees to either side. Above us, we only see about 50 degrees. Downwards, our field of vision extends about 75 degrees, and we tilt our heads downward by about 10 degrees while walking, allowing us to see almost everything beneath us. Very little is seen above us (Ibid, p.32). This is to say that a successful street should be able to achieve viewing possibilities at ground level in the case of streets with a multi-storey fabric. Those with single or medium-rise characters might perform better if essential parameters, such as rhythm and scale, previously discussed, have been met.

Another essential aspect when creating successful pedestrian streets is speed. Sensory impressions are processed by the human sensory systems when walking at 5 km/h. This phenomenon is behind the creation of what is termed 5 km/h architecture. On streets with such architecture, since people move at a slow speed, shop fronts, signs, and signals are viewed at a closer range and can thus be smaller and more detailed or refined (Ibid., p. 33). Another approach involves faster movement, with vehicles traveling at 60 km/h. In this scenario, shops and signs are larger, as viewers cannot see and make out smaller signs at such a speed. Softer buildings are designed along such streets since detail and craftsmanship may not be necessary, as they are invisible. According to Gehl et al. (2006), the flaw in planning and design is that sometimes, along 5 km/h streets, pedestrians are forced to see buildings that belong to the 60 km/h streets.

According to Gehl (2010, p. 76), one of the planning considerations that can ensure a pleasant user experience is the use of narrow units. Such units achieve shorter lateral distances, making it possible for pedestrians to have new experiences every 4-5 seconds. In that sense, 15 to 20 shops per 100 meters/328 feet. Such solutions have been observed in visually appealing and liveable shopping streets in Changcha, China (Figure 2), Middlesbrough, UK and Toronto, Ontario, Canada.

⁴ www.investopedia.com (accessed 02/06/2025, 14:57)



Figure 2: A shopping street in Changsha, China⁵

Gehl supports the idea of having diversity since our senses need stimulation at fairly short time intervals. 4 to 5 seconds, ensuring a balance between a few and too many stimuli. With the provision of multiple doors, interaction between the inside and outside is ensured, adding to the user's experience (Gehl, 2010, p. 77).

Gehl highlights two significant types of edges: soft and hard. The former describes a street with transparent facades, shops lined up, visible displays, large windows, and numerous openings. In this respect, soft edges encourage slow movement or even stopping to engage with the attractions. The latter refers to a type of street with closed ground floors and long walks; facades feature black glass, concrete, or masonry (Ibid, p.79). Hard edges thus require fast movement, are unpleasant, and may leave users with a low sense of safety and experience.

Like any other street with frequent use, commercial streets require essential street elements to enhance users' experiences. This is because, apart from channelling movement, streets are places for socializing. By downplaying this role, the liveability of streets is largely affected. Liveliness refers to an urban system that encompasses the physical, social, and mental well-being, as well as the personal development, of its residents. It also includes delightful and desirable urban spaces that bring the community together (Hahlweg, 1997 in Al Odat et al., 2021). Al Odat et al. (2021) argue that liveability can be enhanced through the incorporation of specific streetscape elements. Once these elements are sufficiently provided, the number of users increases, and social interaction is positively affected. The streetscape elements include walkability, seats, shelters, lighting, signage system, and green cover. Al Odat et al. (2021) further assert that aspects such as local climate, protection, environmental comfort, design of commercial signage, physical condition, and walkability of walkways, trees, and soft landscape determine the quality of streetscape elements.

Shop fronts are one of the most critical elements in determining the character, quality and perception of retail streets. Well-designed contemporary shopfronts complement the varied architectural character of retail buildings, which in turn promote good quality streetscape (Lee et al., 2014). The most successful shopfronts are known to work with the architecture of the larger building, and market the name of the

⁵ Source:

https://www.google.be/search?q=changsha+shopping+street&tbm=isch&tbo=u&source=univ&sa=X&ved=2ahUKEwjvzqixmaTeAhVQ1xoKHeihDCsQsAR6BAgAEAE&biw=1366&bih=657#imgsrc=uUSd7vF_cnCmpM: (accessed: 26/10/2018, 15:25).

business and services offered, allow visibility to potential customers, contribute to a distinctive pedestrian and customer experience and lastly enhance the overall business district's identity (Ibid). A shopfront is also expected to welcome customers from afar using its color, materials and textures.

2.5 Richness of Commercial Streets

Referring to Washington Street in Boston, USA, which is a concentration of shopping spaces and theatres, Lynch (1960) explains that the concentration of special uses makes streets prominent in the eyes of observers. Lynch further stresses that the higher the concentration, the closer it is for that street to become a linear district.⁶ According to Gehl et al. (2006), the richness of shopping streets is achieved through display details, signs, shop windows, pleasantness in viewing, smells, things to touch, and speed, which determines the size of signs (Figure 3).

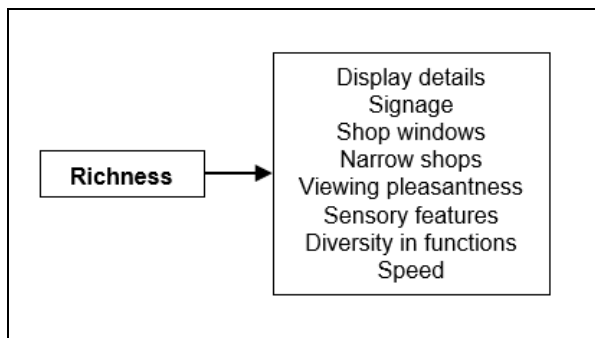


Figure 3: Richness of commercial street spaces (source: Gehl et al., 2006 and Jacobs, 1961).

Such urban design elements are necessary for establishing liveable street design as they foster socio-economic activities and improve user experiences. As Jacobs (1974) shows, streets also serve other purposes apart from carrying wheeled traffic and their sidewalks; the main public spaces of a city are its most vital organs. Streets bring people together in a private social fashion in that people who do not intimately know each other meet and, in most cases, do not care to know each other (Ibid).

2.6 Space Use and Visual Characteristics of Commercial Streets

The informal generation of commercial street spaces leads to the introduction of qualities that are experienced physically by being in the spaces and visually by observing a number of elements that are associated with the design of commercial spaces. In turn, a character is formed in terms of the appearance of the different buildings and elements such as display windows, billboards, immediately connected functions/spaces, and outdoor spaces. The arrangement or configuration of such components of spaces influences how space is used from inside out and the attractiveness of the street, and may inform conventional planning and inspire future design.

2.6.1 Visual and Physical Characteristics

The built form can be defined as the physical appearance in architecture that constitutes a space with configurational properties and social and cultural meanings. Within this built form, we find several organizational units or elements with different living patterns Hasgöl (2015, p.2). The link between the arrangement of elements in space and human cultural values becomes essential. In the commercial

⁶ Lynch (1960) defines districts as two-dimensional sections of the city with common identifiable character which an observer mentally enters. They are identifiable both from the inside but are useful for exterior reference due to their unique character.

street spaces, there are various physical elements that come to being and create a noticeable character or pattern. These elements include verandas, display stalls, billboards, and benches. It is essential to connect this pattern with human values, as this may be a significant contribution to understanding how character is influenced by culture and vice versa. When describing the character of commercial streets, it is vital to analyze the individual and collective spaces as a unified entity: the urban façade.

According to Habraken (1998, p. 51), the building is composed of elements that can be either part of the building or a piece of furniture. In addition to this, he also describes a composition as that which consists of wall, roof, and columns individually or collectively (Ibid, p.57). In describing the character or composition of the space, Habraken contends that the point of view may differ depending on who describes it. An architect may see a composition of spaces, a builder – a collection of materials, and a painter – a combination of planes distinguished by colours (Ibid, p.17). In describing the character of the street spaces, in this study, individual spaces will be described using a combination of these descriptions in order to capture the reality and the quality of the spaces on a multi-dimensional level.

2.6.2 Character, Space Use, and Activities

Urban design concepts by theorists such as Jahn Gehl and Jane Jacobs, who have researched extensively on attributes of places, focusing on how to achieve good user' experiences in attractive neighborhoods and commercial streets, are vital in reflecting upon the character of commercial streets in this study. According to Gehl (1987), the use of space is dependent upon the quality of space or the physical environment which influences the type of activities in the particular space. He posits that there are three basic types of outdoor activities, namely necessary, optional, and social. Essential activities are those that must be done such as going to school, shopping for necessities, etc. Optional activities are those that might happen based on a need triggered or influenced by the physical environment; sitting down for a drink or for enjoying a view, a breath of fresh air, etc. Social activities are those that depend on the presence of others and happen spontaneously, such as seeing and listening to others, children playing, and greetings and conversations (Gehl, 1987, p.13-14). In the context of self-organized urban environments, this description helps identify and analyze the various activities occurring in commercial street spaces and how people experience these informally generated spaces, both outdoors and indoors. Additionally, the description is necessary for assessing the quality of space in terms of its visual and physical characteristics, such as size, scale, and overall appearance. According to Markus (1983), all that happens as far as human doings are concerned, happens in space, and so, behavior and space cannot be separated. In that sense, the two are inseparable in a sense, that it is almost impossible to analyze a space where behavior or space use has not been observed. This justifies the need to closely observe how people behave or use the space they have created.

2.7 Classification and Categories of Commercial Streets

In the context of the study, since the proliferation of commercial activities is observed in the majority of spines: major and minor roads, streets, and pathways, it is essential to understand how such movement channels are categorized. In addition, there is scant knowledge on categories of commercial streets, whether in formal or informal areas. According to Levinson et al. (2007), there is a poor understanding of the co-evolution of land use and transportation, and only a few studies have attempted to establish the relationship independently. Integrating the two can be a crucial step in categorizing commercial streets. Understanding of the categories based on land use patterns and the nature of spaces can lead to an

understanding of how movement channels have evolved. This understanding will illuminate what seems to be lacking, or the potentials that the movement channels have. This, in turn, can be analyzed comparatively with what appears to be the reality of movement channels that different actors intuitively shape.

As far as functional purpose is concerned, roads are differentiated from streets in that they carry through traffic and serve a longer distance purpose. In contrast, streets provide access to properties and local areas (Eppell et al., 2001, p.7). The provision of direct access to properties, pedestrian and bicycle paths, bus routes and accommodating the needs of through traffic are amongst the roles of roads (Ibid, 2001, p.2). According to Eppell et al. (2001), roads might serve more than one function, and the mixing of incompatible ones might be detrimental. Understanding the road hierarchy makes it possible to define each roadway based on its function, allowing for the implementation of appropriate design criteria in accordance with the objective set for the particular road. This, in turn, minimizes conflicts between the roadway and adjacent land use, informing planning and system management (Ibid).

Below is a classification of roads in Queensland (Figure 4), which, according to Eppell et al. (2001), has been extensively used in other areas of the US:

1. **Arterial roads** offer longer-distance traffic movements, transportation of primary freight and dangerous goods, and carry traffic to specific areas.
2. **Sub-arterial roads** connect local areas with arterial roads, offering access to public transport and catering to pedestrian movement.
3. **Collector streets (major and minor collectors)** offer connections of residential streets with roads that carry traffic and give access to individual adjacent properties. These streets should carry no external traffic, such as primary freight. The collector streets bound the environmental cells shown in Figure 4 within the specific area.
4. **Local streets** with low-speed environments and pedestrian priority offer access to individual properties.

According to Talvitie (1996, p. 4), the categorization system or types of roads vary by place and function. The following list is an extensive classification system:

- **Arterials:** Motorways and other divided arterials; Principal arterials;
- **Minor Arterials Collectors:** Major collectors; Minor collectors
- **Locals:** Public local roads; Private local roads;

Other: Bicycle and pedestrian paths.

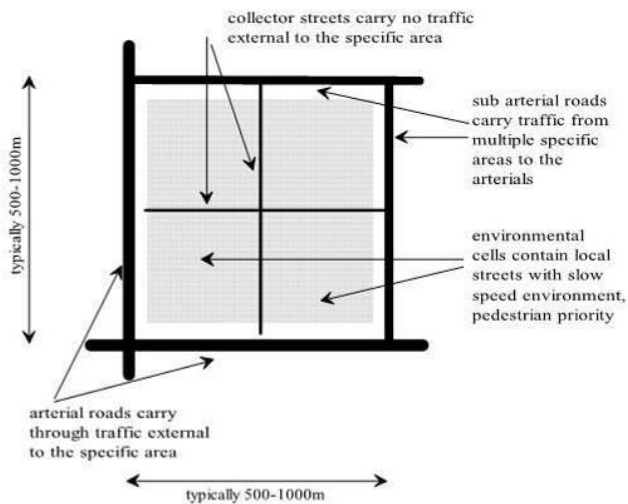


Figure 4: A traditional hierarchy of roads: arterial, sub-arterial, collector, and local roads (source: Eppell, 2001).

In a study conducted in Irkutsk, Russia, a classification system for roads and streets was proposed based on traffic flow, road width, and vehicle speed. Acknowledging the controversy surrounding road network design, a reform of the road network was proposed that addresses responsive land use and characteristics. Considerations such as active ground floors, outdoor accessories, and the type of adjacent street buildings (e.g., commercial, shopping, entertainment, mixed, residential, and industrial) were proposed (Prelovskaya et al., 2017). These street types provide the closest description of what can be considered typologies of commercial streets based on land use, movement, width, and modes of transportation.

Table 1: Road Network Classification with Respect to Immediate Street Land Use, Movement, And Size.

No.	Characteristics	Street classes		
		Urban boulevard	Shared space	Transit friendly streets
1	Type of buildings adjacent to the street	Mixed use in city center	Commercial, mixed, shopping and entertainment, residential	Mixed, commercial, shopping and entertainment
2	Width of red lines, m.	> 26 m	> 5 m	> 14 m
3	Intensity and speed of traffic	> 3000 vehicles/h 30 - 50 km/h for transit flows, <15 km/h on local lanes	<400 vehicles/h <15 km/h	IT <600 vehicles/h, or is absent; PT according to scheduled traffic 30 km/h
4	Hierarchy of methods of movement	P-C-PT-IT	P-C-IT-PT	PT-P-C-IT

* PT- public transport, IT – individual transport, P - pedestrians, C- cyclists (source: Prelovskaya et al., 2017).

According to Prelovskaya (2017), city planning has not sufficiently addressed issues that extend beyond movement function, as well as the "place" function; the latter being central to this research. The study was based on road classification and standards in the US, UK, Austria, Germany, and the UAE, taking Irkutsk city in Russia as a case. The study revealed that the Russian road planning system was lacking three key categories: modern boulevards, transit-friendly streets, and Shared space. Below are the characteristics of the categories (refer to Table 1):

Modern urban boulevards

- Serve major traffic flows with low permitted speed and integrated into the urban environment, and is designed for heavy traffic of all users of street space but separates users through spatial zoning.
- Saturated with diverse objects of attraction: business offices, trade areas, recreation and leisure activity areas, trees, a wide sidewalk, and a landscaped median.

Transit-friendly Streets

- Public squares offer high-quality pedestrian communication services with low noise and high pedestrian activity; cycling is also available.
- Homogeneous paving unifies the street with the square, prioritizing pedestrians and utilizing landscaping coverage as the zoning of street space between public transportation and other users is widespread.

Shared space

- Minimizes the distinction between the movement of vehicles, cyclists, and pedestrians using the exception of attributes inherent in road traffic: curbs, isolated walkways, markings, traffic lights, traffic signs, and pedestrian crossings.
- The uniform paved space becomes a public place of harmonious interaction among all road users. Thus, all design elements are intended to reduce the distinction between flows of motorized and non-motorized means of transport.

According to this study, pedestrians have been given top priority, with a focus on separation, sharing, public use, communication, and on-road services. These are design features that can be observed in informally designed streets and can be useful tools in conceptualizing or deciding relevant functions or design features for specific roads. From the discussions above, it is essential to understand the nature of land use activities so that interventions to existing roads align with these activities. For instance, if a road has a concentration of small retail spaces, its traffic will be slow, as people may tend to park at different spots to step in and out of stores in search of various commodities. This fact can lead to a more shared space that facilitates movement and accessibility for all users, connecting the two sides of the roads with ease.

In Belgium, particularly the Flanders area, roads are distinguished based on the roles they play in connecting, collecting, and providing access. The multi-use of the road poses a challenge in management, as it serves motorists, slow traffic, public transport, and the transport of goods. According to Planning (1998), a balance between function, form/layout, and use characterization, with a view to the various users, is necessary for the effective functioning of roads.

Roads in the Flanders area are thus classified under four types: main road network, primary roads, secondary roads, and local roads (Lauwers, n.d.). Below is a description of the classified roads:

Main roads have only one role: connecting on the European level, with a supplementary function of connecting on the Flemish level.

Primary roads have two categories: primary I roads, with a main function of connecting and a supplementary function of collecting, and primary II roads, whose main function is to collect and have a

supplementary function of connecting.

Secondary roads have a connecting and collecting function on the local level, with a supplementary function of giving access to adjoining parcels.

Local roads primarily serve the function of providing access.

There appears to be a need for a re-interpretation of road categorization based on traffic safety, accessibility, and livability. Lauwers further acknowledges the need for more research to address different land use patterns along road networks (Ibid).

2.8 Road Classification and Funding in Tanzania

According to Kumar (2002), a uniform classification and definition of different roads in Tanzania does not exist. A classification of the commercial classification of roads is no exception, even though the government recognizes the role of roads in economic development.

Tanzania adopted the Road Management Initiative (RMI) framework to address the needs related to road maintenance. Subsequently, the Roads (Amendment) Tolls No. 2 Act was enacted in July 1985. A collection of tolls was to be treated as government taxes to generate funds. Two Road Funds were established in August 1991 and August 1992; the former was for financing maintenance and rehabilitation, and the latter for funding urban and district roads. The Roads Tolls Act was established in December 1998, following the realization that the declarations lacked legal force and liability. Only 10% of the funds were spent on compensation, upgrading, and development. The donor's reactions gave rise to the Tanzania National Roads Agency (TANROADS), which was established on July 1, 2000 (Kumar, 2002, p. 1). The establishment also ensured that the agency was commercially oriented. The setup of the TANROADS suggests that a lot more can be achieved if there were a link between the road agency, planning authorities, and the various other actors by recognizing the role roads can play in fostering the proliferating livelihood activities along the majority of roads in Tanzania.

According to Kumar (2002), the Highway Ordinance recognizes classification of road networks in five categories:

Trunk roads; These are national and international through routes that link regions and provide access to important border posts and ports.

Regional roads. Secondary routes connect district centers within a region or link another important center to a trunk road.

District roads. These are roads that connect district headquarters to higher-class roads, or connect important centers within the district to higher-class roads.

Feeder roads. Village access roads link important centers within a ward to the rest of the network.

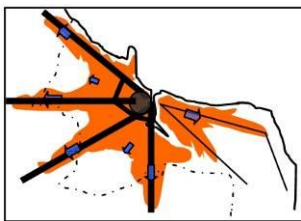
Urban roads. Roads within a city, municipality, or township.

Even though the ordinance has covered a wide range of roads, in its classification, it misses a significant number of roads that are termed "unclassified roads" and include paths, tracks, national park roads, estate roads, private roads, etc.; Kumar (2002, p.15-16). This omission leaves roads to take shape without appropriate guidelines, calling for the redefinition of road hierarchy and typologies in Tanzania to reflect the inherent qualities and everyday livelihood practices. More studies should thus be directed towards understanding unclassified roads concerning formation, function, and character.

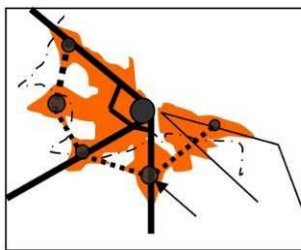
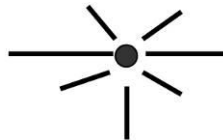
2.9 Conceptualization of Urban Road Structure in Dar Es Salaam

The future of the spatial structure of Dar es Salaam focuses on a larger scale of development. It is conceived based on three alternatives (Figure 5): the 'Monocentric Radial Development Pattern', 'Polycentric Satellite Centers Development Pattern', and '*Strategic Corridor Development Pattern*' (DCC 2008).

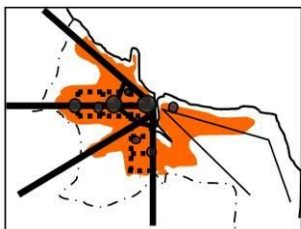
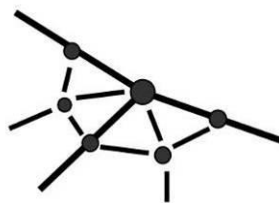
The Monocentric structure is more or less a continuation of the actual situation in which one central area takes in all large-scale developments and densification. In the polycentric structure, satellite towns, located 15-20 kilometers from the central area, are envisioned. This would mean that sufficient housing and employment must be part of the structure. The Strategic development structure intends to have urban developments along the city's major transportation corridors that support DART (the public rapid transit system) (Ibid).



5(a)



5(b)



5(c)

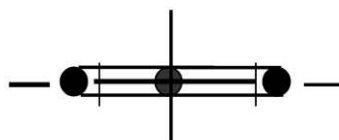


Figure 5: Conceptual diagrams of the (a) Monocentric; (b) Polycentric and (c) Strategic alternative road structures for Dar es Salaam city (source: DCC, 2008).

The Strategic Corridor Development pattern is the one that has been adapted for 2030, mainly because the second would have taken longer, and the first is a continuation of the current development pattern that has presented a number of challenges (DCC, 2008). The expected outcome from 2007-2050 is shown in the conceptual diagram.

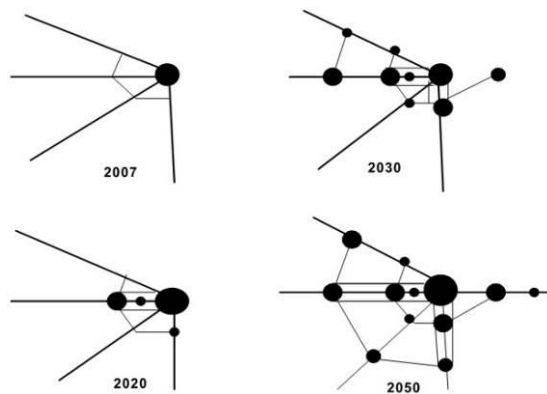


Figure 6: The conceptual diagram of the structure of the city for corridor developments (source: DCC, 2008).

The 2050 vision is based on large-scale urban, commercial, private, and public developments along major spines and spines that connect respective centers (Figure 6). The development, among other goals, aims to redevelop areas such as Manzese, Tandale, and Magomeni (both formal and informal settlements), as well as large-scale residential projects in areas 15-20 kilometers from the CBD, and intensive commercial and business areas at key city intersections. Intensive urban development is expected in other areas, such as Kawawa, Morocco, the Central area, Kariakoo, and Ubungu, to name a few. Three satellite centers are earmarked for decentralizing the current CBD. At ward and neighborhood levels, urban service centers will be located along the main BRT corridors and on intersections of primary and secondary arterial roads; potential areas are Mwenge, Ubungu, Chang'ombe, and Mgulani (Ibid).

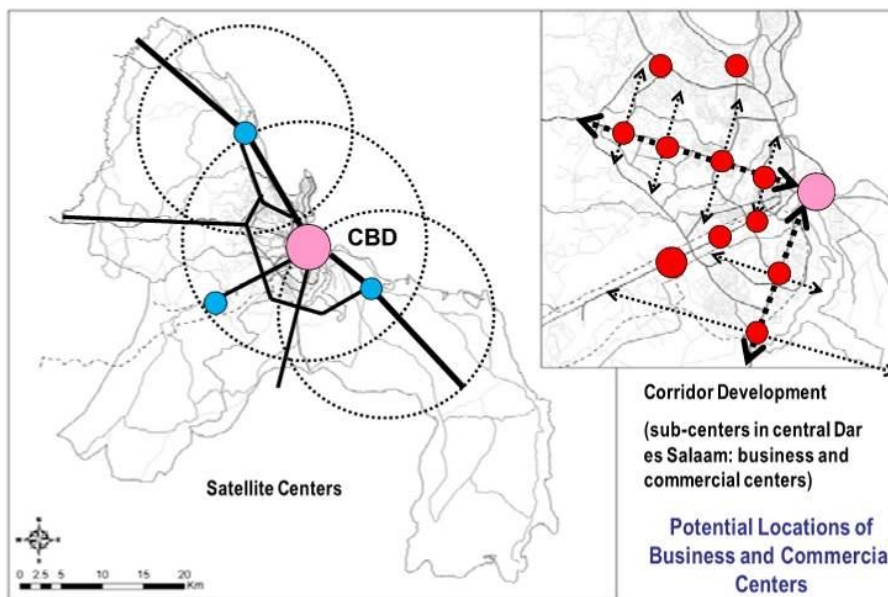


Figure 7: Potential business and commercial centers, and new corridors (source: DCC, 2008).

The plan (Figure 7) appears to have a Eurocentric approach, featuring centers and significant commercial developments along major roads. Even though the plan has a strong inclination towards commercial activities and theoretically intends to address employment challenges, it overlooks minor spines and their inherent values and qualities. Thus, the plan does not reflect tacit knowledge that drives street developments in urban areas. In this sense, it also fails to reflect the realities of the diverse users of urban commercial streets.

2.10 The Adopted Universal Approach Towards Improving Urban Movement Channels – The Transit Oriented Development (TOD) in Dar Es Salaam

Dar es Salaam has, through the Dar es Salaam Metropolitan Development Project (DMPD), which commenced in 2015, experienced significant improvements in its urban infrastructure with the assistance of financing from the Government of Tanzania (GoT), the World Bank (WB), the Department for International Development (DFID), and the National Development Fund (NDF). With a budget of US\$300 million, the main aim of DMPD is to enhance metropolitan governance, improve priority infrastructure and services, enhance urban mobility, mitigate flooding, and upgrade low-income communities. Together with DMDP, other programs include Tanzania Strategic Cities Project (TSCP) worth US\$ 343 million meant for investments in urban infrastructure, 400km urban roads, 15km of major drains, bus stops and sanitary landfills and the Urban Local Government Strengthening Program (ULGSP), worth US\$ 255 million for improving urban management capacity and service provision in 18 secondary cities⁷.

DMDP, which was planned to end in 2021, had three components. The first was improving local roads, supporting public transit, mobility, and connectivity to low-income communities. The second was the upgrading of low-income communities. The third was institutional strengthening and capacity building, and the fourth and last was implementation support, monitoring, and evaluation. The main TOD approach (Figure 8) was creating compact, denser, liveable, mixed-use, and walkable communities. Vibrant streetscapes, pedestrian-friendly zones, diverse land use characteristics, and convenient access to public transportation are some of its key features. Its top benchmarks are Curitiba – Brazil, Singapore, Hong Kong – China, London – United Kingdom, and Johannesburg – South Africa.



Figure 8: Principles of TOD⁸.

From Figure 8, principle number 6 and 7 reflect inclusivity but the image selected reflects modernistic

⁷ Source: go.itdp.org. Accessed 05.02.2024 16:19.

⁸ Source: go.itdp.org. Accessed 05.02.2024 16:19.

Eurocentric urban space and landscape. The redevelopment in Figure 9 portrays an intervention that proposes densification through wider blocks (amalgamated plots) and taller buildings. Features such as podiums, plazas, and colonnades may not sufficiently reflect the context. This *"one size fits all"* approach tends to overlook essential aspects of urban development, such as evolution, the utilization of space, and the inherent qualities that have developed over time. Such proposals may miss their aim if residents' practices are not thoroughly analyzed and effectively integrated into spatial development.

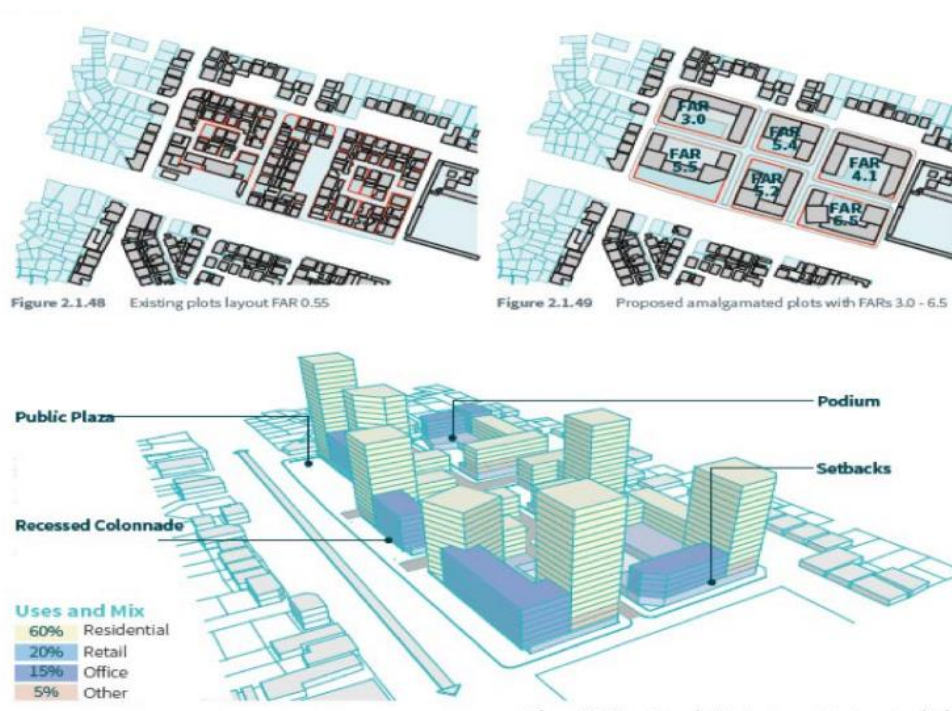


Figure 9: Conceptual sketches of the envisaged Manzese redevelopment.⁹

Large-scale commercial developments and densification, intended to create jobs and address housing needs, may also impact livelihoods and sustainable practices through gentrification (Rankin et al., 2015). Such developments displace low-income business owners, as well as marginalized residents, including those engaged in informal economies. The modest and spontaneous self-organized practices along minor spines are key in informing policymakers on current low-key residents' practices and future design interventions. The exclusion of minor streets, whose land value may increase over time, could threaten livelihoods, which are catered to in the vast commercial and public spaces. When developments are conceptualized around "transiting" instead of "living", the focus shifts from non-motorized users (human beings) as the main users to motorized users; this misses the aim. Such Neo-liberal proposals subsequently lead to urban environments that are not in touch with reality (Baffoe, 2023).

In the long run, even though they improve infrastructure, particularly mobility, they might disrupt livelihoods or inadequately cater to the functions along the street. Those who can afford to upgrade their spaces by demolishing, redesigning, and reconstructing to accommodate more cars and users do so. Those who cannot sell their properties leave.

Gentrification is thus another consequence of such approaches, as the urban poor in the urban settlements in question are further pushed out of the city and forced to expand their informal

⁹ Source: go.itdp.org. Accessed 05.02.2024 16:19.

settlements. This is partly because the heavy real estate developments that replace the existing low-rise developments tend to increase rent, which the majority cannot afford. Such results might suggest that when donors and governments ignore residents' practices in creating urban environments that respond to their everyday livelihood needs, no matter the intention, they miss their aim, as what they produce may pose questions on the positive impact of the project when residents do not positively respond to the state-driven interventions.

2.11 Livelihood Assets in Commercial Streets: The Asset-Based Strategy

A livelihood entails capabilities, assets (including both material and social resources), and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from shocks and stresses and maintain and enhance its capabilities and assets both now and in the future (Chambers et al., 1992, cited in De Satgé, 2002, p.4). A livelihood's assets and capabilities must be maintained and enhanced for now and in the future for it to be sustainable. Then, professionals must understand the main components of a particular livelihood to devise the proper mechanism for studying, analyzing, and integrating it into spatial development projects.

Since 'livelihoods' as noted earlier, has mainly focused on the rural poor (Farrington et al., 2002), whose economic, physical and social structures are somewhat uniform and predictable, it is vital to employ a different livelihood approach for Shekilango (the case study commercial street) which is located within a planned urban settlement. The street, which encompasses multiple actors and stakeholders, necessitates a Sustainable Livelihood (SL) approach that requires a thorough understanding of the particular context through participatory mechanisms. This will, in turn, reveal shared interests and common goals to achieve sustainable means of livelihood.

According to Scoones (1998, p.14), bearing in mind different site characteristics, there is no clear definition of "sustainable livelihood". Scoones reveals that the definition is not only open for debate, but it encompasses a range of different criteria, some of which may be conflicting.

According to Farrington et al. (2002), SL in urban areas is not easily generalizable due to the differences that exist between the rural and urban settings. However, if we can understand the tacit knowledge behind residents' actions in overcoming state-borne scarcities, then the particular contexts we study can distinctively reveal the livelihood assets. Farrington further suggests that there is a wide range of household types and structures, as well as income inequality, in urban neighborhoods. According to Scoones (1998, p. 14), SL interventions should focus on particular contexts while considering both formal and informal mechanisms, rather than relying solely on conventional interventions that may be limited to aspects such as the transfer of technology and skills.

Scoones further stresses that SL is a normative concept with multiple and sometimes contested elements. In support of Scoones (1998), Limbumba (2010) argues that livelihoods constitute a wide range of parameters and opportunities. Limbumba captures the meaning of livelihoods based on people's choices when selecting residential locations in Dar es Salaam. According to her, in an urban context, the meaning of livelihoods is captured:

- Local demand for retail services such as tailoring activities on verandas and selling of items in make-shift stalls;

- Access to readily available land for informal economic activities;
- Possibilities of engaging in petty informal economic activities around the home without facing scrutiny of the local authorities and;
- Access to informal information networks on job opportunities, accommodation, and customer base (Limbumba, 2010, p. 103-104).

Limbumba further observes that livelihoods are met when people in urban settlements have access to the necessities of life for survival, including access to information, accommodation, space for informal economic activities, and basic services.

Scoones (1998) further points out that an understanding of livelihoods should be dynamic and requires the participation of all different parties in the process when defining meanings and objectives, analyzing linkages and trade-offs, identifying options and choices, and ultimately deciding what is to be done. Furthermore, Scoones emphasizes the importance of participatory field-level analysis by highlighting key issues, questions, and contradictions. This approach, according to Scoones, may help to achieve common goals amongst the key actors.

SL originates from rural environments and has been widely discussed from this very perspective in which poverty and household economics were the significant areas of concern (Farrington et al., 2002). However, Farrington points out that SL can equally be used in urban environments, where the analysis of assets, capabilities, vulnerability, and threats is similar but differs in scale, as urban areas are more developed and have better access to healthcare and credit.

Farrington further argues that, in fostering livelihoods, NGOs or people's organizations can become partners rather than relying entirely on the government. The SL approach seeks to address issues that are beyond income. It refers to the practical realities and priorities of poor men and women, the assets they have, and the challenges they face. SL also encompasses capabilities, assets (including stores, resources, claims, and access), and activities necessary for a living.

The SL approach in support of Chambers et al. (1992) definition of livelihoods, encompasses three major levels (Farrington et al., 2001):

1. An overall development objective: to enhance the sustainability of people's livelihoods, focusing on poor men, women, and households;
2. A set of underlying development principles.
3. An analytical framework; assets that poor men and women use, and strategies for making a living instead of focusing on their needs.

The principles of SL state that development should be people-centred, beginning with the priorities, opportunities, and needs of the people, contextually specific, multi-level (building on micro-macro linkages), and conducted in partnership among the public, private, and community sectors. It should also be sustainable economically, institutionally, socially, and environmentally, and dynamic due to residents' complex portfolios (Farrington et al., 2002).

Bearing in mind the meaning and principles of SL, it is vital to understand that the complexity theory, which serves as the main analysis framework, addresses dynamics in spatial development, systems, and subsystems among actors via socio-economic networks and participation models that result from the

particular context.

Table 2: Asset categories of different sustainable livelihoods models.

Chambers	UNDP	OXFAM, DFID	CARE	Moser
tangible (stores, resources)	human	human	human	labour
intangible	social	social	social	economic and social infrastructure
- claims for material, moral or practical support	natural	natural	economic	housing
- opportunity to access resources	physical	physical		household relations
	economic	economic		social capital
	political			

(Source: Farrington et al., 2002).

From the models in Table 2, UNDP, OXFAM, and DFID contain both the social and physical assets as capitals for sustainable livelihoods and were adopted as a framework for understanding livelihoods in the study area.

According to Meikle (2002, p.37-51), from an economic point of view, engagement in various economic activities in the informal sector is crucial. This is done to procure goods such as houses, food, water, and fuel. Meikle (2002) also notes that even families who are not poor adopt the same livelihood strategy to supplement their formal incomes. Nonetheless, meeting their basic needs is still a challenge due to the high costs of urban living (Limbumba, 2010, p.16-17). Also, this phenomenon is relevant in the formal settlements in urban areas where house frontages are converted to commercial spaces, or when actual commercial spaces are built from scratch. It might also suggest that not every commercial development along urban streets is for survivalist intentions; some might be a means of generating more income by investing significant sums of money in commercial establishments. This is captured by Beall (2002, p. 73), who acknowledges the importance of having an approach that takes into account the diverse and most pressing needs of urban households. The pursuits may be to survive, seek security, cope, or increase wealth.

Livelihood strategies can also be reflected in the efforts the urban poor make to sustain themselves economically. This is captured by Avogo et al. (2017, p. 94), who describe housing transformations in Accra as a livelihood strategy adopted by households to generate more space or income for survival or livelihood in urban settlements in Accra, Ghana.

Several authors have emphasized the significance of the relationship between a place as a self-sufficient shelter and the individuals who inhabit it. This is described by the term 'place dependence', which encompasses the functional bonds that people have with places (Ingold, 2015; Limbumba, 2010). This argument is also captured in the following statement:

"If a place meets a person's needs and allows them to reach their goals, it will be evaluated as better than possible alternative places, resulting in that person becoming dependent on that place." (Vaske, 2003 cited in Anton et al., 2016, p.146).

The above quote suggests that when an environment offers socio-economic opportunities that not only enable dwellers to get easy access to their daily basic needs, but also facilitate and support survival and existence, it gives them a sense of belongingness and strengthens the attachment to that place.

In the context of this study, livelihoods, entail all economic activities that are either influenced or, are a result of the creation of commercial spaces on the one hand. They include formal and informal economies, carried out within the realm of commercial streets to sustain the lives of urban dwellers. On the other hand, they refer to the social dimension that keeps residents attached to a place based on what it offers in terms of basic services, safety, and security needs, among other factors.

2.11.1 The Physical Capital

According to Farrington et al. (2002), physical capital encompasses tangible assets that people own, rent, or use, including housing, tools, equipment, and public infrastructure for a means of living. Farrington et al. (2002) further emphasize that housing, being the most essential asset for the poor, is used for both shelter and income generation through activities such as renting out rooms or using available spaces as a workshop. Mutual support networks and community-based organizations mainly rely on secure access to housing, or simply put, a permanent location. Farrington et al. (2002) further argue that housing as a physical capital improves livelihoods when it is situated near employment opportunities or markets, as is the case with houses that are close to main roads, which create opportunities for renting out commercial spaces.

Public infrastructure and services, being one of the pull factors drawing rural migrants to cities, are a vital asset for livelihoods. In that sense, a physical asset as related to a commercial street is one that comprises tangible qualities and amenities that support commercial spaces, such as the display characteristics, veranda, and immediate outdoor space provision, and the parking space necessary for serving customers. This is to say that it contains built spaces and the public and private infrastructure. The African context, where residents often plan and design the built environment in order to overcome state-borne scarcities, calls for spatial development processes such as infrastructure improvements that take this urban reality into consideration. Farrington et al. (2002) caution us that improvements to public amenities such as roads may be of ambiguous benefits if they do not sufficiently address the needs of the particular beneficiaries. This is due to the fact that improvements are usually part of larger state regularization programs, which are known for not fully involving residents (Ibid).

2.11.2 The social capital

According to Moser (1998), social capital is a key asset for both urban and rural communities. Moser refers to social capital as networks of mutual support that operate between communities, extended families, and households. Social capital is not only vital in accessing loans, childcare, accommodation, and valuable information on employment and opportunities, but it also helps communities in mobilizing to make demands for services and rights to the state, particularly when it is a critical social capital (Moser, 1998; Putnam, 1993). Moser further argues that social capital is primarily vital in times of crisis and socio-economic change, and gives a sense of economic and housing security to communities (Ibid).

According to Farrington et al. (2002), the vast and distinct relationships between specific individuals and groups in cities make generalized characteristics of social capital difficult to identify. Therefore, it is vital

that these characteristics are tied to specific locations. In relation to a commercial street, a social asset has two aspects. The first aspect involves the networks that residents build over time to create their built environment. In this regard, residents can overcome state-imposed scarcities or use self-organization to resist the top-down approaches practiced by authorities. The second aspect pertains to residents' interdependencies in running their businesses. An example of this can be seen when businesses establish strong customer bases with both nearby and distant clientele. These robust networks that residents cultivate and utilize in their daily business activities are considered essential social assets that need to be understood by authorities and professionals.

2.12 SL in practice

An SL approach in practice begins with an understanding of how people thrive and survive, as well as the key opportunities or leverage points they possess. Then, the livelihood goals, which relate to the ease with which people achieve their desired objectives through institutional improvements, are sought. The operational context that determines what is feasible is then clarified based on the power constellation in decision-making.

Given the origin of SL, it is essential to take note that the initial work by Chambers et al. (1992) was based on the rural context in which the dependence of most poor dwellers was on natural capital (soil, forests, and freshwater systems). The natural capital needed to be exploited in a sustainable manner whilst sustaining access to it by the poor dwellers (Tacoli, 1999). Farrington et al. (2002) caution that in the urban context, the SL's natural capital is significantly less critical and that in urban areas, livelihoods are mainly focused on income or financial capital.

Farrington further stresses that physical capital and social capital, particularly housing, are of utmost significance to the urban poor, which translates to livelihoods being tied to income generation. This, in principle, means that the urban dwellers' goals are closely tied to income generation and will use the resources they have to ensure that their means of livelihood are not compromised. Experienced agencies such as CARE have argued that underlying principles of SL can equally be employed in urban areas but with a different set of tools and methods tailored for field research and built on SL principles: residents' needs, socio-economic linkages, context, and partnerships.

Another area reflected upon in this study is environmental sustainability (influenced by household behavior), which according to Farrington et al., is often more distant in the urban context, simply because it is more relevant in the rural context where poor households are compelled to deplete natural resources for their livelihood activities. Additionally, he describes the impact of household behavior on the environment as indirect. In reality, since the urban poor focus on income generation or financial capital, the environment may be depleted in a different manner, such as through encroachment on public outdoor spaces and inadequate housing conditions like congestion due to violations of building regulations. These factors may seem to connect SL approaches between rural and urban contexts and support SL as a model applicable in both areas.

The relevance of SL principles lies mainly in the fact that they advocate for a pro-poor, participatory, and decentralized agenda, which may be contrary to top-down approaches or local institutional practices and vested interests of multiple stakeholders. This, in principle, implies that SL can only be fostered when the interests of the various agencies are established. To contribute sufficiently to the SL approach, actors are

studied and analyzed, and their core intentions are discussed to outline the sacrifices, compromises, and adjustments each actor must make, ensuring the interests of all are understood and safeguarded.

2.13 Chapter Summary

Literature has shown that commercial streets have multiple uses, qualities, and assets. The SL framework used to illuminate a commercial street's assets leaves gaps in terms of how the qualities discussed (based on Western concepts) can be analyzed and understood from a local perspective. The discussion on road types and related commercial activities, as well as universal approaches adopted for infrastructure development in Dar es Salaam, appears to overlook critical local preferences and commercial street typologies. Since SL builds on principles of linkages, partnerships, residents' needs, and important contextual considerations, more discussion on how to critically analyze a self-organized commercial street is vital. In what follows, the discussion delves into the key concepts and main theoretical considerations that can better position aspects of a self-organized commercial street in its respective context: urban Africa. Key concepts and the main theoretical lenses are discussed to shed more light on space generation, participatory practices, and the interrelations among actors.

CHAPTER THREE

CONCEPTUALIZATION OF THE SELF-ORGANIZED COMMERCIAL STREET AND THEORETICAL CONSIDERATIONS

3.1 Introduction

This chapter discusses the concepts that are at the core of this thesis. It also discusses the theories used as lenses to analyze, understand, and link the concepts. It analyzes and interprets aspects of a commercial street, which conceptually portray physical and social livelihood assets as defined by UNDP, OXFAM, and DFID. Concerning the social asset, it discusses residents' networks and interdependencies that sustain their livelihoods. As such, a commercial street is portrayed as a livelihood driver, since its physical elements and social fabric directly reflect the physical and social assets of livelihood. This chapter also introduces "the self-organized commercial street" as a concept. To define this concept, the chapter discusses the meaning of self-organization and outlines its key elements that clarify the idea. In addition, this chapter discusses how the main concepts are interconnected and highlights the theories employed to analyze them.

3.2 Theoretical Considerations

This section presents a discussion of the theories grounded in the variables examined in this research, namely, actors and their interrelations, space generation, livelihoods, and participatory design. This section also discusses the theories that link the main concepts. It also highlights the theories that were used more as tools for understanding different phenomena than for analyzing them. Such theories include the Ladder of Participation (Arnstein, 1969), which was intended to provide an understanding of the nature of participation in other contexts and in the case study area. Sustainable Livelihoods (SL) also offered an understanding of urban livelihoods, which, unlike rural livelihoods, have not been sufficiently explored. This theory also brings into perspective critical aspects of livelihoods to consider in the development of sustainable commercial streets.

According to Glaser et al. (1967), as cited in Maxwell (2013), grounded theory is inductively developed through constant interaction with the data during a study. Glaser suggests that the theory is grounded in the data and not conceptually developed, allowing it to be tested against empirical data. In what follows, theories that provide various understandings and those grounded in the data are presented and discussed. After the data was collected and analyzed, theories were assigned to the subthemes. Other theories that were initially considered were discarded. For instance, social justice theory and actor-network theory were excluded as they appeared moderately irrelevant and inadequately grounded in the data. Second, the subthemes they seemed to be grounded in (actors' networks, interdependencies, and participation) were already covered in what became the primary lens: complexity theory.

3.2.1 Complexity Theory: The Main Analytical Lens

Complexity theory, which originated from scientific and mathematical fields, was influenced by cybernetics, information theory, and general systems theory, and has been referred to as the new science and a paradigm shift from previous science (Waldrop, 1992; Schneider et al., 2006, cited in Turner et al., 2019). Complexity theory expands on reductionist theories that have been known to reduce the whole into parts in natural sciences such as chemistry, physics to mention a few (Turner et al., 2019). As mentioned earlier, before assigning complexity theory as the main lens, a number of theories

were proposed, but seemed limiting. The systems theory (GST) in the social sciences has been a useful tool and instrumental in the human resource (HR) theory, but due to its inability to address complexity and non-linear systems, it has been recently challenged (Ibid).

It might seem peculiar and futile to apply complexity theory (which originates from natural sciences) to social sciences. However, complexity theory views a system (the whole) as qualitatively different from its parts (sub-systems), which are viewed as different components that connect with the whole. This argument is relevant when studying how people create and use space while focusing on the different parts (networks, outdoor space and other amenities) which, based on particular contexts may differ and may not necessarily interact the same to create the whole (a commercial space). As cautioned earlier, despite complexity theory originating from natural sciences, suggesting that it might not be equally useful in social sciences, several authors have argued that one must re-conceptualize the theory to align it with the respective discipline. One must also theorize within the social sciences to examine social systems or even create entirely new models that challenge and overcome the limits of past theories (Tkachenko et al., 2017; Jayanti, 2011 and Yawson, 2013 cited in Turner et al., 2019). It is necessary to adopt such measures when employing complexity theory, as it has been observed to have limitations such as unpredictability of urban processes due to human behavior which is mainly influenced by free will, and over-emphasis of emergence, leading to non-objective generalizations.

According to Hillier (2012), complexity theory has many philosophical dimensions, including post-positivism, relativity, pragmatism, critical realism and post-structuralism. This research focuses on critical realism and post-structuralism, not only because they embrace complexity thinking but they also explicitly acknowledge a world of becoming (not of being) (Boonstra et al., 2001). Post-structuralism and critical realism also acknowledge development trajectories that are based on evolution. Of particular importance to this research is how these two philosophical dimensions consider normativity and subjectivity as inherent components in generating understanding of a complex world (Woermann et al., 2018 cited in Boonstra et al., 2001). Fox (n.d) argues that there is a deep structure to the social world that may not be apparent to the lay observer or from the empirical data. Fox further argues that critical realism and post-structuralism can disclose an underlying reality when the researcher moves beyond observation and experience of events using theory, hypothesis, and experiment, thereby advancing systems of thought. Several authors contend that this philosophical perspective expands conceptual and empirical understanding of contemporary planning and urban dynamics (Hillier, 2007; Van Assche et al., 2014; Van Wezemael, 2012 cited in Boonstra et al., 2001). This suggests that complexity theory can significantly contribute to the empirical and conceptual understanding of the complex interactions and dynamics in the networks and space generation.

As complexity theory addresses non-linear processes and embraces emergence and real-world dynamics, it can integrate multidisciplinary insights (Ibid). Complexity theory, is relevant in analyzing actors' interactions, their complex networks and self-organized processes as it is characterized by three features (Klijn et al., 2009) that address the research variables of this research:

- **Non-linearity;** addresses dynamism in processes involved in generating spaces along commercial streets. Non-linearity also examines factors that contribute to the informal design of commercial spaces. Such processes are non-linear, as they are subject to urban development dynamics due to ever-changing urban conditions and livelihood needs.

- **Co-evolution;** elaborates on tensions and interdependencies amongst actors and between actors and the spaces they use for their daily livelihood activities. Co-evolution also elaborates on how actors' networks and social relations (the social asset) and the self-organized spaces and qualities (the physical asset) reveal systems and subsystems. It further elaborates on how they influence, oppose, and interact with one another.
- **Self-organization;** explains how actors take action in overcoming state-influenced limitations such as lack of amenities to meet their daily needs. It refers to the capacity and capabilities of a single actor or collective actors in organizing themselves and taking action to generate space as well as to stand up to top-down processes.

According to Boonstra et al. (2001), the complex interactions can be internal in which the parts (or systems) reproduce themselves internally or it can be external in which the systems reproduce themselves in reaction to changes in the environment. This argument is relevant in analyzing how users develop spaces through tacit knowledge (internally) and through other means such as how the environment around may influence the development of their spaces (externally).

According to Turner et al. (2019), complexity theory, which has been widely used in the natural sciences, is increasingly becoming more prevalent and relevant in the social sciences. Referring back to Boonstra et al. (2001), self-organization is not only place-based, it is also complex and contradictory. This argument favors complexity theory as the main lens for analyzing self-organized processes on one hand. On the other hand, Turner et al. (2019) argue that complexity theory can be useful in identifying connections that may be too simplistic to notice when comparing parts and the whole. Turner et al. (2019) further argue that complexity theory which views systems as non-linear, is relevant for unpredictable futures, as is the case with urban transformations.

The Connectionist Approach

In the connectionist approach, systems are viewed as processes involving participation and are self-organizing. Due to the complexity of the system, mainly influenced by many actors in play, results cannot be predicted, but the processes can be better understood through the inherent interactions that address the actors' interests and intentions (Ibid). In contrast to the reductionist approach, this approach enables an analysis that establishes linkages between the research variables, rather than studying systems holistically. It expands the social sciences. According to Boonstra et al. (2001), the connectionist approach is also useful in analyzing social networks in large sets of data as opposed to correlational techniques. The approach is useful in identifying patterns, clusters, and strong ties that are linked to human behaviors.

3.2.2 The Ladder of Participation: Towards an Understanding of Participation and Actors' Capacities

According to Arnstein, citizen participation is simply the redistribution of power, which enables have-not citizens, who are primarily excluded from the political and economic processes, to be deliberately included in key decision-making processes. It enables them to determine how information is shared and how goals and policies are established, which subsequently allows them to share in the benefits of an affluent society (Arnstein, 1969, p. 216). According to Arnstein (1969), participation, a concept that can be elusive, is explained by the eight rungs or levels that form a ladder (Figure 10). The lower rungs define the stages that barely involve citizens; they are non-participatory. As one goes up the ladder to

'citizen control,' the level of participation increases to a point where citizens are empowered to make key decisions in development processes.

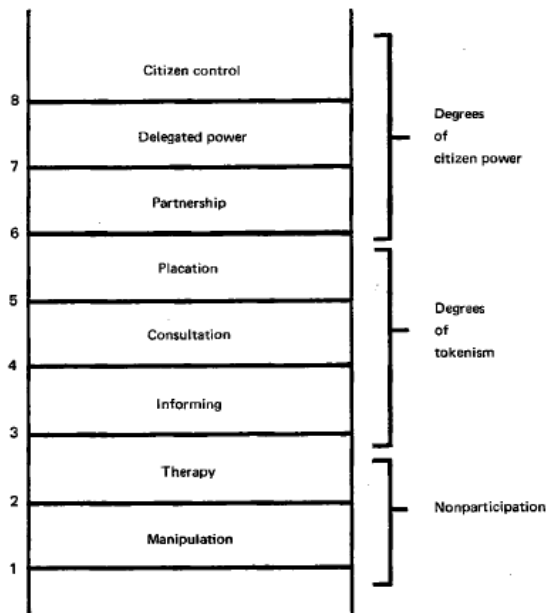


Figure 10: The ladder of participation (source: Arnstein, 1969).

3.2.3 Theories Grounded in Actors' Interactions and Interrelations

The concept of "lines" (Ingold, 2015) illuminates the interactions and interdependencies among actors. Lines entail the links between people who cling to one another and to objects, as does an infant to a toy. When people cling to one another, sociality emerges. Amidst the clinging also lies tensions, which cause people to tangle or bump into one another, yet they still interact. The interaction is what can be referred to as "lines" that connect people (Ingold, 2015, p.3). This theory is relevant as it explains livelihoods from the perspective of socio-economic networks and attachments or clinginess (to user-created qualities, spaces, objects) that people portray in their everyday lives.

In urban environments that sustain livelihoods, people depend on both social and physical assets. They create attachments to businesses that are close by or ones that cooperate with them and so forth. They also develop attachments with customers, ones that are close and far away. All this happens within a physical environment that they come to appropriate over time and develop attachments to. In the course of conducting their daily activities, residents interact with these two elements —the physical and the social — leading to interdependencies and tensions. People develop a sense of belonging to places (Limbumba, 2010) based on the character and values that places possess, as well as those established through living or working relations, which in turn form strong social and economic networks.

3.2.4 Theories Grounded in Space Generation, Space Use, and Qualities of Commercial Street Spaces

The study employed complexity theory as the primary lens and concepts related to urban informality and the production of space to discuss how informal space generation takes shape.

3.2.4.1 Urban Informality and Informal Design of Spaces

According to Vasari, the term "design" is defined as a visual expression of concepts that man has through his intellect that are later imagined in the mind and built up in ideas that later come to pass through implementation (Vasari, 1568 cited in Gunn et al., 2013, p.139). According to UN-HABITAT (n.d), the term "informal" should not be taken simply as "illegal," as the former may be the only way of urbanization and accessing the city. The "informal" is also not equal to "inferior" or "marginal" since there exist informally produced settlements that are more functional and better places to live in (Ibid). According to Roy (2005, p. 148), informality should not be viewed as opposing formality or as a sector; rather, it should be seen as a mode of urbanization and a series of transactions that connect different economies and spaces. Roy shows a clear link between the formation, economies, and spaces.

Informal space production can be defined as a process that unveils the ever-changing relationship between the legal and the illegal, the legitimate and the illegitimate and the authorized and the unauthorized (Roy, 2010, p.233 cited in Boano et al., n.d., p.52). It involves bargaining in the contested boundaries between the formal and informal (Ibid). An important concept comes to life: "bargaining," which suggests a way in which the two sectors can collaborate, negotiate, or overlook each other's interests for the benefit of both.

Informality is primarily due to the absence of formal, affordable housing options, limited access to affordable buildable land, inadequate building and planning regulations, and a lack of appropriate housing finance. In most cases, housing finance excludes low-income populations who do not have a share in the formal sector urbanization (Ibid). As of the 1960s, the democratization of space gave rise to new dynamics in urban space formation. Urban areas accommodate people with different income levels, needs, and aspirations. The dynamics are thus manifested in both the formation processes and the available functions and services in the resulting built environment, which caters to different classes of people. It was also in the 1960s that urban informality began to be championed as 'just another way' of building cities. The effectiveness of informal design practices unveiled a range of tactics and innovations by urban residents in responding to urban conditions. Informality began to be perceived as a potentiality to learn from rather than a problem to solve (Ibid).

According to Boano et al., urban informality constitutes, amongst other characteristics, violations of regulatory and normative frameworks in building stock, design, layout, occupations, and aesthetic characteristics. He stresses, however, that the violations are not only enabling but also generative in economic terms since they produce central and competitive locations that provide access to income-generating opportunities (Ibid., p. 53). Informality also encompasses practices and activities in cities as a response to the changing everyday necessities of urban dwellers. In most cases, such practices emerge from the bottom up and without legal or institutional frameworks, or plans put in place by the government (Guibrinet, n.d., p. 4). According to Well (2007), there are four dimensions of informality in the construction business, which have an impact on four levels:

- Employment of workers
- Form of enterprise
- Compliance with procedural requirements and
- Compliance with planning and building regulations.

Well, further stresses that formal construction can also have features of informality, as exemplified by construction with a permit but with companies and/or workers who have not complied with all registration

requirements or employment regulations. The particular definition of informal construction that should be adopted depends on the issue under investigation and the purpose of the analysis (Well, 2007; Meilke, 2011, p.4).

Informality in African cities has influenced the production of spaces that deviate from the norms of planning and architecture, thereby playing a fundamental role in shaping and transforming these cities. La Porta et al. (2014, p. 109) describe informal practices as an untapped reservoir of entrepreneurial energy, which, if unleashed by reducing entry regulations or improving property rights, can fuel growth and development. However, other scholars, such as Levy (2008), present a contrasting view, stressing that tax evasion and non-adherence to regulations are another side of informality. It is safe to say that the inclusion of users' preferences in the design of cities is inevitable (Cheema, 1993 and Kombe, 2001, p.1) support this by stating:

"More governments are now shifting from hostility towards viewing informal house builders as 'real' builders and designers of large parts of cities."

According to Anyamba, informal sectors are an essential source of urban livelihoods for people with low incomes. He further reveals that there are survivalist informalities associated with the existence of small-scale commercial activities such as mobile street vending, food and vegetable vending, shoe shining, and the like (Anyamba, 2006, p.115). The city is the accumulation and integration of many individual and small group actions, which are governed by cultural traditions and shaped by social and economic forces (Moudon, 1997, p. 3). Much of the transformation that leads to the introduction of new work and commercial spaces is manifested along spines in urban areas. A few scholars (Ligthelm, n.d.; Babere, 2015) have highlighted the types of spaces and structures, terming them as either temporary or permanent. Sheuya (2004, pp. 18-19) asserts that retail shops are among the built spaces that result from informal housing transformation processes in urban areas. Bahendwa (2013, p.3) captures the role of ordinary residents in shaping urban form in Tanzania:

"Generally, the urban transformation of cities in Tanzania has increasingly involved the uncoordinated practices of ordinary urban residents with varying capacities, who have contributed the lion's share in the formation of urban form."

The changing morphology thus results in the introduction of retail spaces along the streets, as well as some accommodated within the built urban environment. Activities and amenities along paths, streets, roads, and highways in urban areas reflect informal spatial development trends carried out by different actors at various levels. According to Izar et al. (2019), 70 percent of the built residential area is consolidated on unsurveyed land, thereby offering the largest share of income and employment opportunities.

In the context of this study, informal design refers to the processes employed by various actors in generating commercial spaces and streets, either individually or collectively, using intuition. The processes are usually defiant of the normative design procedures, standards, and regulations, which, in principle, should involve statutory procedures and the engagement of professionals as overseers of design and building works.

3.2.4.2 Urban Design Concepts on Attributes of Desirable Commercial Streets

Mullins et al. (1999) argue that successful retail spaces arouse all sensations: taste, sight, sound, touch, and smell. The smell of food preparation, the sound of music being played, performances, and techniques are routinely found in consumption spaces (Mullins et al., 1999; Jones et al., 2016, p. 496). In support of this, Gehl et al. (2006) also emphasize the role of active shop frontage in encouraging pedestrian movement as a key ingredient for successful urban design; Jones et al. (2016, p. 497) echo Gehl's assertions.

Mehta (2013) stresses that the diversity achieved by independent retailers contributes positively to the success of neighborhood commercial spaces. This diversity is created by the individuality of the products they sell rather than selling national brands. Furthermore, diversity is considered a more important factor than the quality of products sold in the retail spaces (Ibid). These concepts (stimulating mental stimuli and diversity) are explored in the case study area as self-organized qualities of spaces that enhance users' experiences. In the fieldwork, these resulting characteristics are analyzed to reveal how they are informally achieved and how the participation or active involvement of various actors can influence or complement the top-down urban development processes.

3.2.4.3 The Theory of Production of Space

The theory of the social production of space developed by Lefebvre consists of two interrelated frameworks. The first is the periodization of space framework consisting of absolute space, sacred space, historical space, abstract space, contradictory space, and differential space. The second framework employed in this research is the spatial triad, consisting of spatial practices (perceived space), representations of space (conceived space), and representational space (lived space) (Lefebvre, 1991, p. 39).

According to Lefebvre, to understand the evolution of the space in question, one must address the realities of that space, such as "modes of production" or socio-economic needs in specific societies. Here, Ibid (p. 48) highlights the significance of context in analyzing the production of space, which is closely related to how socio-economic activities influence the generation of commercial street spaces.

According to Lefebvre, in understanding space, its production, and society, it is vital to turn to three concepts: spatial practice, representations of space, and representational spaces.

Spatial Practice

According to Lefebvre, this entails the practice of society in producing space slowly but surely, based on intrinsic values reflected in the routes and networks of work, private life, and leisure. According to him, the role of each actor in the production of space can only be evaluated empirically (Lefebvre, 1991, p.38). This aspect of space describes the values of specific societies and how they reflect the space that is being conceptualized and conceived. It also addresses the issue of empirically analyzing each actor's role in the production of space to subsequently understand the layers and thus the collective societal values.

Representations of Space

Representations of space entail how space is conceptualized, perceived, and conceived. At its highest level of creation, there is conceptualized space, the space of actors such as planners, urbanists, technocratic subdividers, and social engineers who identify what is lived, perceived, and later conceived. According to Lefebvre, this is the most dominant space in any society (Ibid., p. 39).

In the context of this study, professionals and policymakers conceptualize and perceive space differently from how users conceive it. This concept plays a crucial role in understanding the spatial design approaches practiced by professionals, particularly in relation to the intrinsic values of the multifaceted actors involved in generating commercial street spaces. It proposes ways of linking these elements in a more appropriate manner.

Representational Space:

Representational space is the space that has been directly lived in by appropriating available space and adding values to it, such as images, symbols, and other attachments (Lefebvre, 1991). This space is occupied by inhabitants and overlays physical space (Ibid). Spaces such as those acquired and transformed by artists exemplify representational spaces. In appropriating space, tenants in commercial street spaces tend to follow the same path, thereby creating representational spaces that reflect their values. The informal processes they employ shed light on how space is transformed to meet the everyday use of specific users.

According to Lefebvre (1991, p. 101), social spaces encompass everything produced by either nature or society through cooperation or conflict, including living beings, things, objects, works, signs, and symbols. Spaces along streets are seen as natural or spontaneous spaces since they are informally or unconsciously conceived and generated and are thus considered “created or a work” as opposed to “being produced or a product” (Ibid). In this description, Lefebvre distinguishes between a product, which is made through repetition, such as bulldozers or concrete mixers, and a work, which occurs naturally or unconsciously, such as the city of Venice, which evokes emotions due to its artistic values (Ibid., p. 75). In the context of this study, it is vital to take note that the space being discussed is that which is a work (created) based on how people appropriate and use it in everyday activities. ‘A work or created space’ is in opposition to a product that can be repetitively produced.

3.2.4.4 Scarcity: Decoding Residents’ Contributions and Professionals’ Limitations

Iossifova (2013) argues that scarcity breeds creativity, suggesting that the intuition that residents rely on leads to originality and innovation, implying that the limits (scarcities) that exist (at times imposed by authorities) spur creativity. Despite the professional (architect or planner) having the power to contribute to a healthier society, they are sometimes powerless, as the planning and design of the built environment and its outcomes are usually not within their control. As a survival strategy, he is then left with a choice of focusing on the appearance of the building rather than interpreting his choices within the built environment. Hence, professionals remain powerless as they cannot adequately explore and study the deficits based on users’ needs, making it challenging to design around them.

Exploring How Abundance is Grounded in User-Generated Qualities

According to Iossifova (2013), scarcity is not absolute, as one has to understand the underlying physical, material, or conceptual makeup of particular contexts. Turning this discussion to Australian Aborigines who prosper in minimal resources (what is considered insufficiency from the Western perspective), they live in abundance. Even though they have limitations in terms of edible and material resources, they have, over time, prospered and thrived. The modern world, which to the conventional man is abundant, may not seem fit for them.

This theory appears grounded in the qualities of self-organized spaces, as the attributes of commercial spaces in sub-Saharan African cities may seem scarce if we rely only on Western perspectives. We might easily render them insignificant. Contrarily, on the ground, self-organized qualities appear to be abundant spaces with rich and unique African features. Reasoning helps us to avoid falling for the “one man’s scarcity is another man’s abundance” trap. The rationalist’s phrase “if anything goes, nothing else matters” leads us to reflect on approaches that avoid adaptations of whatever seems right, no matter how it is far from reality.

An intermesh of top-down and bottom-top approaches that are based on reasoning seems vital. When users, professionals, and authorities are irrational, they all miss the aim and become part of the problem instead of the solution. Iossifova stresses that scarcity needs to be addressed with intent against choices made in the modern world (presumably based on reason and technological progress), but perhaps these choices are irrational.

Critical Reflections on How to Decode What is Scarce

When addressing scarcity, it is easy to fall into a trap if we associate it with material possessions, as a lack of them can seem to imply the need for more (Iossifova, 2013). Since the underlying problem may not be lack of stuff, this approach may not bring the right resolve. Iossifova stresses that lack of food is not best solved by food aid as the cause might be poor distribution, poverty or inequality. In that sense, hunger is real, but scarcity is not. Furthermore, scarcity of stuff can be an economic construct in which technological inventions or new explorations and applications of new materials can be made to fix problems in the modern world (meant for monetary gain).

Iossifova concludes that to avoid seeing scarcity as a condition of insufficiency of resources, we must relate stuff as embedded in social networks in a sense that its social construct must be well understood. In the built environment, to understand this, one must engage with various actors in their natural settings and observe how they interact and use the space. This calls for more active participatory methods (Kraff & Jernsand, 2023; Polk, 2015) since other barriers including time can hinder the degree and depth of participatory design.

If participatory design does not sufficiently identify and describe what is in reality scarce, users’ contributions that are aimed at meeting their livelihoods needs might be affected. Participatory design should thus, take place in the framework of addressing critical livelihood assets. Instead of irrationally addressing the greater needs of the modern world, such rational approaches are based on reasoning and thus, address the greater needs of all beneficiaries.

3.3 Key Concepts

The key concepts that are discussed are self-organization, which manifests as informal design leading to the spatial manifestations of commercial streets in the city, space use and qualities of self-organized commercial streets, participatory design and livelihoods in self-organized commercial streets.

According to Kironde (2016), three factors influence land use: historic/ethnic, government policy, and economic factors. These factors influence users to shape the spaces along roads and streets continually. The co-design decisions that users make to shape urban space are driven by the need to create environments that support their daily livelihoods, or, more specifically, economic activities. The study focuses solely on informal formation processes. This conceptualization is captured in Figure 11.

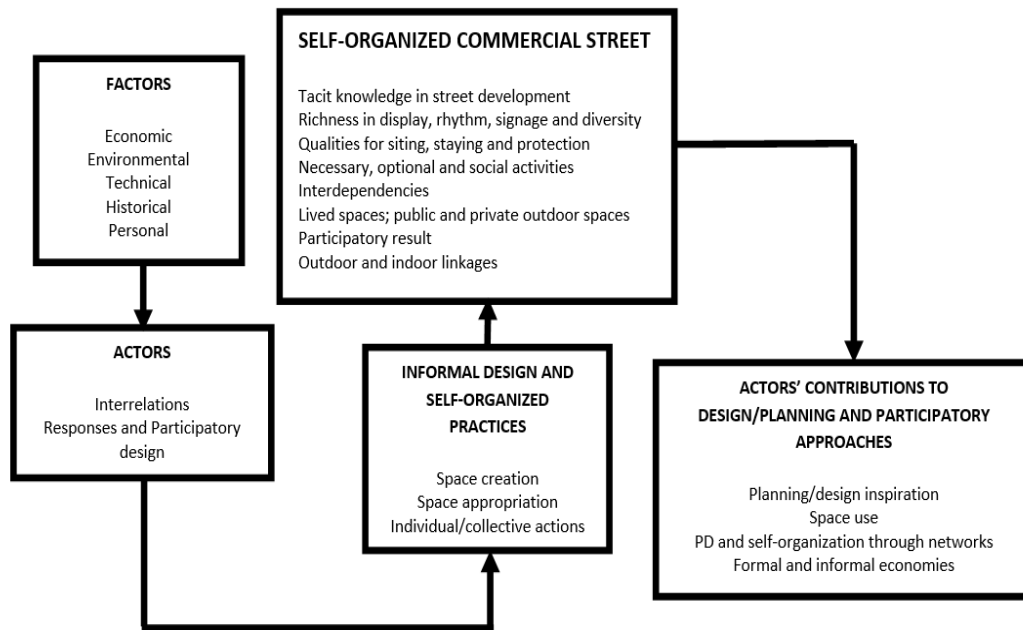


Figure 11: The conceptual framework showing the link between the main concepts and the contribution of the research (source: author, 2020).

The space generation process shown in Figure 11 involves formal or informal design processes to produce commercial streets. By understanding the interaction between factors, actors, and design practices, as well as aspects such as networks between actors, we can comprehend how users contribute to planning and design, and establish the link between commercial street spaces and livelihoods. The formation process leaves out the formal design processes, which are not the focus of this study.

3.3.1 Understanding Self-Organization

Urban self-organization is defined as a spontaneous process which consists of urban transformations that emerge from local and place-based interactions between multiple agents and/or elements to counterbalance centrally planned developments (Boonstra et al., 2021). Understanding of self-organization processes in particular contexts reveals inherent contemporary challenges such as urbanization, poverty, as well as violations that result from practices that emerge out of ignorance (Heylighen et al., 2007 cited in Boonstra et al., 2021). It thus becomes central in understanding residents' actions and how they contribute towards urban transformations.

Gielen et al. (2017) define self-organization as a result of citizens' intuitive actions that express discomfort, irritation, or fear. These emotions may result from top-down approaches that threaten or disrupt their daily livelihood activities. According to Van Meerkerk (2013), self-organization is defined as the emergence of structures of governance that involve local stakeholders, such as residents, businesses, and non-profit organizations, in key decision-making through collective and collaborative action. Lupala (2002) argues that such urban developments can inform urban authorities of the need to rethink and develop new concepts that align with development dynamics rather than adhering to conventional concepts.

According to Guibrunet et al. (n.d.), self-organized urban developments reflect patterns of spatial organization, social relations, and economic exchanges, as well as the growing influence of global markets, specifically in Africa. Krugman (1996) argues that self-organization can result in a self-organizing economy, which is based on networks that start randomly as micro-economies and evolve into alternative large-scale patterns. In support, self-organized economies are also seen as income-generating activities that occur outside the formal regulatory framework, such as car washing and vending (Oswalt et al., n.d.; Kweka et al., 2011). Thus, self-organized economies and urban developments are closely intertwined.

According to Moudon (1997), a city is a product of efforts by actors, the accumulation, and the integration of many individual and small group actions governed by cultural traditions and shaped by social and economic forces. Moudon highlights the inherent spatial organization patterns, socio-economic and cultural dynamics, and the power of individual and group actions. In the case study (Shekilango commercial street), spatial elements such as the veranda and outdoor spaces that are a result of socio-economic forces achieved through both individual and group actions of a diverse list of actors are analyzed.

Another critical aspect of self-organization is related to activism. For instance, in Brazil, residents address the needs of homeless federations by tackling two key issues. First, the mitigation of the daily needs of dwellers and, second, the struggle for redistributive justice and representation. This approach builds on Mitlins's (2008) bottom-up co-production, which is meant to access basic urban services and influence the state. Mitlin (2008) explains that social movements in this approach involve engagement, contestation, and subversion. These characteristics lead to negotiations with the state. According to Mitlin (2008), this is what is referred to as "self-organized co-production." In the context of this study, a self-organized space (user-generated space) refers to spaces that are individually or collectively created through collaborations to respond to users' needs and tastes in areas governed by regulations.

3.3.2 Conceptualization of the Self-Organized Commercial Street

When one navigates the commercial streets of Dar es Salaam, two main observations emerge. The first is related to the qualities and amenities that residents achieve, which seem to be a result of using tacit knowledge. These qualities and amenities, previously discussed, are a commercial street's physical assets. They can also be interpreted as richness, space utilization, and multifunctional spaces with qualities for sitting, staying, and protection that support different activities. The second observation is related to self-organized processes and interdependencies among actors. These interdependencies and networks, leading to self-organized participatory design, are a commercial street's social asset, as

previously discussed. They can also be interpreted as socio-economic networks, participatory results, and co-design dynamics among actors. This conceptualization is illustrated in Figure 12.

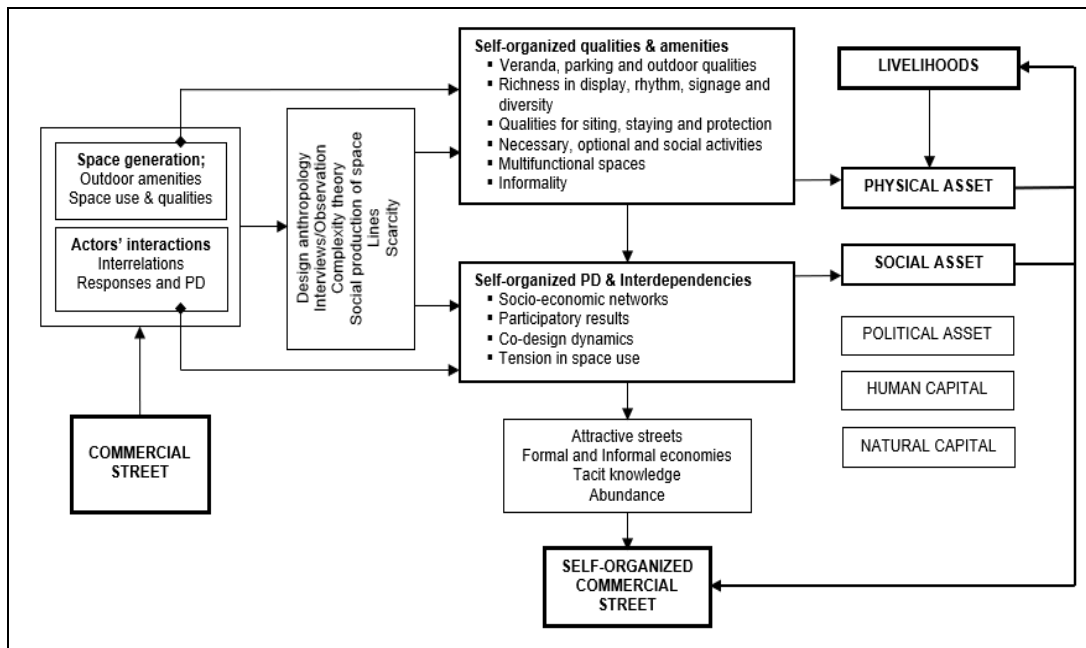


Figure 12: The conceptual diagram for a self-organized commercial street and its link with livelihoods (source: author, 2020).

A "self-organized commercial street" consists of physical and social assets that the study has shown are vital for sustaining residents' livelihoods and are a result of tacit knowledge accumulated over time.

3.3.3 The Generation of a Self-Organized Space Through Appropriation of Space

Space appropriation is defined as the process or mechanism of transforming a space into a place, thereby creating meaningful attachments (Rioux et al., 2017, p.1). Attachments and similar terms, such as sense of place, place identity, place dependence, home territory, and place-making, are defined as the bonding between individuals and their built environment that occurs as a result of transforming the space into a place (Scannell et al., 2010; Ibid). In the context of this study, this concept is reflected in the manner in which users develop planned areas using informal design processes and occupy and shape the spaces to meet their needs.

Self-organized spaces are such that the first occupants arrange for the building of their dwelling and participate in its production in several ways (Duncan et al., 1993, cited in Benson et al., 2017). The involvement enables households to be involved while also having more control over the construction process, made possible through state support for self-build or by collaborating with other households, housing suppliers, practitioners, and associations (Ibid). This statement suggests that supportive policies and engagement with key government and non-government agencies, communities, and professionals in the provision of housing are crucial in ensuring that residents generate spaces that address their needs. According to Hall (1989), in the Global South, self-organized initiatives are responsive to the ineffectiveness, lack of resources, and government's lack of will to provide housing approaches that meet residents' needs.

3.3.4 Participatory Design

Based initially on Scandinavian literature, participatory design (PD) can be understood as a model for involving users and designers in developing technology and creating artifacts by implicitly and explicitly taking into account others' perspectives and transforming them collectively (Asaro, 2000; Könings et al., 2014). Co-design can be defined as the practice of involving people not trained in design using the creativity of designers in the design development process. Hence, the practical, experiential, and conceptual knowledge of designers, users, experts, citizens, customers, and the like is mobilized, assuming that anyone can be an expert (Cavignaux-Bros, 2002; Sanders et al., 2008). The study intends to show how this experiential knowledge that users have, together with practical knowledge (of designers), can be a resource for developing participatory design tools. Langley (2016) contends that co-design is often led by experts who develop artifacts using the knowledge of non-experts. In contrast, participatory design turns experts into facilitators, allowing non-experts to influence key decision-making and the development process.

When examining Healey's (2006) vision of participatory urban regeneration processes, she refers to these practices as a result of partnerships between actors in formal government, the market, and civil society. Wagenaar (2007) supports this argument by stating that urban regeneration processes are embedded in dynamic network environments, where actors connected, including governmental agencies, commercial actors, non-profit organizations, and residents, interact to reshape urban areas. Additionally, Boonstra et al. (2011) highlight two important areas in which participation can help improve. The social fabric is the first, as citizen involvement is expected to contribute significantly to social coherence. Secondly, it is assumed that citizen involvement stimulates new accountability for the spatial conditions and that citizens' participation will contribute towards improving the spatial quality of their working and living environments (Ibid). Involvement not only strengthens social structures but can enhance spatial qualities since citizens become accountable for their actions.

Mohammadi (2010, p. 5) states that participation means involving citizens in activities such as planning processes or government decisions, thereby shaping planning outcomes. This, in turn, increases the social and political empowerment of citizens. Mohammadi stresses that the top-down approach, or hierarchical approach, tends to address the needs of the government and the elite group, while the bottom-up approach addresses the needs of citizens and has been supported more by urban theorists (Ibid).

One of the key questions this research aims to answer is whether we can analyze, tap into, and build upon the existing knowledge of user preferences in urban informal design processes to inform formal design processes. Professionals, authorities, users, and policymakers drive the latter. Boonstra et al. (2011) capture the meaning of self-organization in urban development in the following statement:

"Initiatives for spatial interventions that originate in civil society itself, via autonomous community-based networks of citizens, outside government control."

However, in contrast to the notion of participation, this definition reflects an approach that begins from a rather inward perspective, where the organization of people serves an internal group. Nevertheless, organizations never develop in complete isolation, as they depend on internal factors such as human capacity, leadership, creativity, and intelligence. They also depend on external factors, such as government policies, public opinion, and the economy (Schreurs et al., 2015). Like Horelli et al. (2015),

this study views informal design processes, such as self-organization, as part of the more extraverted practice of participation, complementing and filling the gaps in formal, top-down, or staged participatory processes (Horelli et al., 2015, p. 230).

In design concerned with city-making, it is essential to recognize the two distinct (inward and outward) but interrelated approaches as forms of participatory design and understand the boundaries between them. This type of participatory design takes as its starting point individuals or groups that assemble, often to address issues they are concerned with, generate collective ideas and actions, and share knowledge and experience with one another. The knowledge in turn, is used to transform their imaginations about (spatial) design, which subsequently enables them to transform the groups and locations addressed (Schreurs et al., 2014). This can occur through the participation and inclusion of people involved in urban informal design, particularly in key decision-making processes.

Human beings have continuously developed and changed their housing environment to meet essential needs imposed by variables that change over time (Nguluma, 2003, p. 4). The challenge, then, is to bring these two approaches together. Involving urban informal design is essential since human adaptability and survival instincts can lead to a better life, even one that is stronger than that dictated by rules and regulations. Researchers in Lima, Manila, Chennai, Bangkok, and Nairobi have demonstrated that people will take the necessary steps to achieve a better life for their families (SACN, 2014, p. 8). The government, however, obstructs instead of helping. It is thus vital to get the governments to hear the unheard voices of the people for them to understand that what they are considering 'informality' or 'illegality' is, in reality, "ingenuity" (Ibid).

Moshi (2009, p. 139) calls for academicians and practitioners alike to direct their research and practice, respectively, toward understanding the African city as a means of evolving planning and design concepts and theories that reflect the realities of African cities. He acknowledges that there needs to be an effort to understand the African city so that planning and design schemes are responsive to its unique characteristics.

The interaction among actors who influence planning decisions varies depending on the context. In Norway, planners interact with developers, while politicians (who make the final decision) interact with the local people. Objections to government decisions can sometimes take the form of protests by residents (Irene et al., 2011, p. 5). The importance of collaborative practices is evident in interventions in mid-sized cities, where Romeau (2017, p. 2) suggests that adaptable spaces, created through collaboration with users, are more sustainable for attracting investment than for struggling to retain existing businesses. According to Geppert (2014), participatory design, termed co-design, can be approached from four different angles;

- Co-design led by industry;
- Co-design led by the public sector;
- Co-design led by the academy;
- Citizen-led co-design.

The above approaches have been adopted in different parts of the world and range from researchers in industry facilitating interventions that link practitioners and the general public, interventions being led by public organizations (UK), spearheading interventions through disseminating knowledge from research, to

informal and formal interventions by users (Geppert, 2014, p.11-13). He stresses that each of the approaches has pros and cons, as some, for instance, might exclude essential actors such as government organizations in decision-making, a case in point being citizen-led co-design. It is thus crucial to devise a mechanism that includes tools for ensuring each actor's substantive participation in the decision-making process.

As far as designers are concerned, inspiration from self-organization practices and building upon what they learn from people who share resources to achieve specific goals is how to approach participation. The study of informal design processes is conducted in an urban context, aiming to design alternative futures for urban development, either in collaboration with or through self-organized efforts by citizens (Goodspeed, 2015; Brynskov et al., 2014). Day et al. (2003, p.11) captures the essence of participation from a technical point of view:

"Outsiders can help, bringing valuable contributions just because they are outsiders, but they can never make design socially relevant, inclusive and respectful without the input of the people who live and work there. Not only do we, the users of a place, know our own requirements and how we like to do things (better than does anybody else), but we also know the place, its climate and the micro-climatic subtleties of every valley and hillside, every street and open space. We never make the (in our view) stupid mistakes outsiders do."

One of the key questions that helps position this study within the participatory approach is answered by Day et al. (2003). Day explains that prior to conscious design, forces that underpinned the design of places were mainly social, ecological, economic, climatic, geographical, and cultural. He further stresses that today, with all the technology and know-how, nothing compares to the integrity of the beautiful places and buildings that, according to him, "happened" in that era. The most beautiful buildings today do not necessarily match the life of today. This phenomenon conceptually challenges designers to have a deeper understanding of place-making as opposed to the business-as-usual approach practiced by professionals (Ibid., p. 10-11). The following statement by Day et al. (2003, p.11) captures the importance of involving the community in the design process.

"You have to get to know places, know their layers: their physical substance, the life that flows through them, their moods and their spirit. The best, probably the only, way to access all this is through the people who already live there. The knowledge they hold is invaluable."

In the context of this study, participatory design refers to the process by which various actors are engaged in decision-making regarding the informal generation of commercial streets in Tanzania. These actors include owners of commercial spaces and tenants, as well as specialized experts and authorities.

3.3.5 Space Use in Self-Organized Commercial Streets

According to Trancick (1986), physical space is defined as a bounded or purposeful void with the potential of physically linking objects. Trancick emphasizes that contextual meaning is necessary for physical space to become a 'place' through understanding cultural context, meaning, and human use of space over time (Trancick, 1986, cited in Lupala, 2012). Rapoport (1970) classifies space into groups

such as designed, non-designed, symbolic, behavioral, and perceived space. Furthermore, he categorizes space into experiential space, sensory space, cognitive or cultural spaces, and social spaces. According to Rapoport, cultural space or cognitive space refers to the space defined by different groups based on their training, previous experiences, adaptation, memory, and cognitive categories. In the groups, designers and non-designers whose views on space vary, thereby affecting how space is used, are observed.

Like Trancik, Rapoport emphasizes the importance of considering context and linking qualities of space with its use for meaningful analysis (Rapoport, 1970). In linking effective space utilization and space use, Gehl (1987) argues that one must study the quality requirements for walking, standing, and sitting. The suitability of these qualities is reflected in elements such as finish materials and sidewalk widths for walkways, availability and type of chairs, benches, and steps for sitting, and lastly, verandas and recessed entrances for standing, which is also related to staying.

Gehl also raises the question of protection concerning safety that is achieved by the presence of people on streets and the ability of the space to shelter users from unfavorable climatic conditions such as excessive solar radiation, heat, and rainfall. In our particular case, protection is analyzed through outdoor space design and how it encourages socializing and staying, which ensures the presence of people. In this regard, space use in this study refers to how self-organized spaces cater to various outdoor functions, as well as provide qualities for standing, sitting, and protection while accommodating necessary, optional, and social activities.



Figure 13: A photo¹⁰ rendering of a commercial street scenario depicting space use and outdoor amenities such as shaded walkways, private and public spaces, and cyclists' zones.

The US National Complete Streets Coalition characterizes "Complete Streets" as streets that offer safe, attractive, and comfortable access for all users, encourage social interaction, and provide a unique sense of place. Complete streets demonstrate an efficient use of space through the use of physical boundaries, as shown in Figure 13. This type, however, discourages vehicular access and parking but promotes the separation of pedestrian walkways and outdoor public spaces that are linked to commercial areas.

¹⁰ Source:

https://www.vaughan.ca/services/business/urban_design/centre_street_urban_design_guidelines_and_streetscape_plan/General%20Documents/Centre%20Street%20Streetscape%20Plan_4.pdf. Accessed: 01.11.2021, 14:43.

3.3.6 Livelihoods in Self-Organized Commercial Streets

According to Oswalt et al. (n.d., p.47), informal economies are income-generating activities that occur outside the formal regulatory framework, i.e., activities that have analogs within the same framework. In Tanzania, the informal economy dates back to the 1960s. As of 1967, when the Arusha Declaration became operational, it brought economic hardship on one side, leaving no alternative but to engage in informal sector activities. On the other hand, a decline in real incomes due to high inflation and unemployment led to a shortage of basic commodities (Malyamkono et al., 1990; Mlinga, 2001, p. 129). However, the then government regarded the informal sector activities as corrupt since, according to the government, the informal sector "challenged the socialist notion of an egalitarian and classless society." (Kenti et al., 1995, p.50; *ibid*).

Rural-urban migration has played a significant role in fostering informal economies. According to Brennan et al. (2007), less than 2% of the population lived in urban areas by 1900. The Figure increased to 20% by 1960, 29% by 1980, and 37% by 1999. It is estimated to reach 50% by 2025 (*Ibid.*, p.2). Regarding informal economies, it is essential to note that informal employment accounts for one-half to three-quarters of non-agricultural employment in developing countries, with rates of 48% in North Africa, 51% in Latin America, 65% in Asia, and 72% in sub-Saharan Africa. World Bank (2014) acknowledges the increasing role of the informal sector in developing economies:

"The informal sector is a pervasive and persistent economic feature of most developing economies, contributing significantly to employment creation, production, and income generation."

With the exception of South Africa, the share of informal employment in non-agricultural employment rises to 78% in sub-Saharan Africa. South East Asia would likely be much higher if there were available data (Chen, 2007, p. 5). According to Schneider (2004), the informal sector as a whole contributes 35% of Tanzania's GDP and accounts for 90% of the jobs in the country (WB, 2009). The informal sector also provides up to 70% of the services consumed by low-income earners (ILD, 2005). ILO (2002, p.2) defines the term "informal economy":

"All economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements. Their activities are not included in the law, which means that they are operating outside the formal reach of the law; or they are not covered in practice, which means that – although they are operating within the formal reach of the law, the law is not applied or not enforced; or the law discourages compliance because it is inappropriate, burdensome, or imposes excessive costs."

As far as this study is concerned, economies accommodated in commercial streets are both informal and formal. Formal in the sense that authorities recognize them, pay taxes, and have licenses. Nonetheless, many commercial establishments exhibit both informal and formal characteristics in their earnings and everyday operations. According to Kweka et al. (2011, p.1), informal employment can have multiple interpretations (Table 3) since "informal" jobs exist even within companies that pay regular wages in the formal sector. In that sense, informal employment is that which does not involve a contract in accordance with labor regulations. Kweka et al. summarize two of the many categories of informal jobs based on concepts used in the informal non-farm sector.

Table 3: Informal Employment

Concept	General Description	Statistical Descriptions	Comments
Employee	A person who is paid to do a task for someone else in exchange for payment.	An employee in a wage job, paid in cash or kind.	Synonym is "job;" "employment" includes employee as well as employer and anyone engaged in nonwage economic activities, with or without remuneration.
Informal employee Definitions vary across countries.	Normally, workers who do not have a contract.	Those whose contract is not in accordance with the labor regulations and/or are not covered by the national social insurance system.	Informal employee Definitions vary across countries.

(Source: Kweka et al., 2011).

There have been efforts to include vendors and informal service providers by authorities responsible for planning. As an example, in 2004, the Government of India recognized the vendor's role in the local economy. It further formulated the National Policy on Urban Street Vendor 2004 and 2009. The planning framework comprised a comprehensive survey of 23 marketplaces located in different parts of the city and resulted in a broad recommendation for the inclusion of street vending (Ray et al., 2011, p. i). According to Haug (2014, p.1), the Ghana Statistical Service estimates that 86.1% of all employment is in the informal economy.

According to Babere (2015, p. 288)), in Dar es Salaam, not only have informal livelihood operators succeeded against competition from modern retail outlets, but they have also won the battle against local authorities when seeking and maintaining a position for themselves in urban spaces. This statement calls for more research on how to integrate this income-generating group into the design of cities, as the inconceivably marginalized group is, in reality, large in number, dominant, and persistent. Thi et al. (2010) argue that informal economies should be integrated into city design strategies rather than being eliminated. Thi et al. explain that those left out of the agriculture and formal sectors are absorbed into the informal economy. According to Thi et al., the 2009 economic recession, which affected the entire world, left Vietnam relatively unscathed among all Southeast Asian states, largely due to the high percentage of labor working in the informal sector (Thi et al., 2010).

From the literature above, it is clear that built environments and, thus, cities are a result of both informal and formal design processes that involve actors at different levels. Since the resulting spaces are self-built and appropriated, they are responsive to the needs of urban dwellers by offering spaces for socio-economic activities. The informal design processes become a necessary alternative to top-down spatial design and planning processes that do not match the rate of urbanization, employment needs, and the demand for social service provision. It is thus necessary to study, analyze, and understand the informal design processes and the actors involved so that relevant professionals can tap into this knowledge. This knowledge can help propose models to plan and design urban streets in light of future dynamics.

In the context of this study, informal economies refer to all economic activities that are not within formal arrangements and have resulted in the creation of commercial street spaces in Dar es Salaam. Informal economies encompass individuals who are informally employed in formal businesses, as well as those operating small-scale, informal enterprises.

Husmanns (1993, p.2) captures employment related to the informal sector in the following statement:

"Employment in the informal sector includes all jobs in informal sector enterprises or all persons who, during a given reference period, were employed in at least one informal sector enterprise, irrespective of their status in employment and whether it was their main or a secondary job."

Informal employment can also be described as informal jobs, whether in formal sector enterprises, informal sector enterprises, or households (Ibid., p. 6). The formal sector enterprise comprises corporations, non-profit institutions, and unincorporated enterprises owned by government units or private that produce goods or services not part of the informal sector (Ibid). In commercial street spaces, this employment coexists with its informal counterpart and is also a subject of study in this research, as it investigates how commercial street spaces foster employment, regardless of their nature.

In the context of this study, how networks are formed and how they become operational is closely related to 'self-organization' in the sense that there is an interaction between elements of society (people, places, and institutions) that is endless and continuous and results into patterns and unforeseen initiatives that emerge spontaneously (Boonstra et al., 2011). All this happens without the control of a central manager or director, leading to a spontaneous emergence of order out of chaos, which may be termed "self-organization." In the context of urban developments, such as commercial streets, this notion is closely reflected in situations where actors contribute to urban developments out of their own motivation, interests, and values within specific actor networks (Ibid). In that sense, motives, networks, communities, processes, and objectives form self-organization practices, which inherently consist of multifaceted actors with different values and interests that are captured in their day-to-day interactions in commercial street spaces.

The influence of self-organized economies and actors' networks in the production of space or city formation is captured by Portugali (2000), who describes a city as a reciprocal product of initiatives by actors influenced by their personal or individual motives in interacting with spatial developments in their environment through collective actions. According to Portugali, the outcomes of such actor networks are manifested in urban forms and patterns (functional or morphological). The physical growth or the emergence of socio-spatial groups in specific geographical settings (such as those along residential streets) or characteristics such as lots or housing blocks are other manifestations (Ibid). In the context of this study, this is reflected in the varying commercial spaces, which, when closely analyzed, may reveal socio-spatial groups in terms of functions, exterior and interior space characteristics, building scale, and outdoor space configuration. In the realm of commercial street spaces, various social and economic activities exist, including leisure, recreational, spontaneous, formal, and informal income-generating activities.

3.5 Literature Review Summary

This section summarizes the literature review, focusing on the gaps and limitations observed during the reading and reflection process within the study context. The main gaps observed include a lack of information on land use and commercial street development patterns, particularly on streets created by residents. Another gap is the inadequate analysis and understanding of how self-organized participatory design occurs and how it can serve as a resource for future city planning and design. Although residents' initiatives in sub-Saharan Africa are well known as an important component of spatial development, they

are not adequately integrated into state spatial development proposals. Other gaps include inadequate analysis and information on livelihood assets along commercial streets, which need to be sufficiently understood and safeguarded. Additionally, there is an inadequate analysis of the right parameters for creating functional and livable streets. Lastly, there is a lack of will and tools to study and analyze what is lacking in urban environments prior to developing and upgrading proposals.

3.5.1 Scant Literature on the Link Between Land Use and Commercial Street Development

There is scant knowledge regarding the qualities, nature, and design of informally generated commercial streets that serve as places and spaces for livelihoods. The lack of such studies further narrows the available body of knowledge related to how streets and roads should relate to land use (Prelovskaya, 2017). Spontaneous commercial streets have been mentioned but have not been discussed or studied in detail, particularly in terms of how actors interact and the qualities that are achieved. Much of the literature focuses on problems and what is lacking. In this sense, issues such as informal and contested streets, informal vending on streets, evictions of vendors, and the like are prioritized (Simone, 2020; Babere, 2015; Racaud et al., 2018).

The description and categorization of commercial streets follow a strict technical approach based on aspects such as mobility, speed, width, and the division between motorized and non-motorized territories. Not only is road categorization not context-sensitive, but it also leaves out typologies that reflect urban realities (Kumar, 2002). Since commercial streets seem to have more than technical characteristics, among others, their social and economic dimensions need to be analyzed and understood. Studies on land use and movement have posed challenges and remain unexplored.

3.5.2 Self-Organized Participatory Design as an Unanalyzed Component in Spatial Development

Research has shown that spatial planning and self-organization are often in conflict (Horelli et al., 2015). Spatial planning and governance in Sub-Saharan Africa have merely involved key stakeholders; citizens' involvement is more about passing information (World Bank, 2021). This revelation might suggest that participation is a missing component. Literature has shown that participation can be indirect or informal, but it exists in a way that has not been sufficiently analyzed (Bratteteig et al., 2014; Van Wolputte et al., 2022). Even though citizens and local organizations may be left out of the decision-making process, they still make a significant contribution to spatial development processes (World Bank, 2021).

Furthermore, socio-economic assessments that are crucial in determining how urban dwellers socialize or conduct livelihood activities are not conducted before planning and designing new neighborhoods.¹¹ Such assessments can be a crucial inclusion, as it may make it possible to achieve sustainable living and working environments. Another vital concern to reflect upon is how participation fits in the Tanzanian context, taking into account the different interests of the various actors involved in the transformation processes.

¹¹ Interview discussion with PIU - MLHHSD experts, Professionals involved in the Shekilango Road expansion and ward leaders.

3.5.3 Inadequate Analysis and Inclusion of Informal Design Processes in City Making

In sub-Saharan Africa, the qualities of space in road infrastructure, in terms of usage, amenities, and public space, are seldom achieved via residents' intuition and are often given due value (Okello, 2013). The environment that residents create, which accommodates both vehicular and non-vehicular movement, public spaces, and social and economic activities, is not sufficiently analyzed and understood (Myers, 2011). Myers further argues that African cities are not only misunderstood, but their creativity and vast urban cultures are also devalued, downplayed, and misrepresented (Ibid). Shaded, green, and public spaces that exist within these environments are often overlooked in implementing proposals but can inform professionals and authorities about the parameters that are vital to residents' day-to-day activities when they interact with their environment.

Several authors have described informal design processes and self-organized spaces as alternatives to creating user-responsive cities (Nguluma, 2003; Bahendwa, 2013; Moshi, 2009; SACN, 2014). This approach is fruitful when the state supports self-organized initiatives and suggests that participatory models are vital in linking the actors. Informal design processes and self-build spaces are phenomena that are not only championed as creative but are also known to provide low-cost housing for low-income earners. They have also been referred to as an untapped reservoir of knowledge (La Porta et al., 2014). Despite their contributions to the planning and design of cities and livelihoods, informal design processes remain unacknowledged and aren't given due value by the authorities responsible for planning and designing cities (Okello, 2013). Hence, they are not adequately integrated into spatial development proposals developed by the state.

3.5.4 Inadequate Analysis of the Link Between Livelihoods and Commercial Streets

The concept of livelihoods has been widely studied. However, it has not been sufficiently analyzed in relation to urban areas, particularly the main subject of this research – commercial streets in urban Africa. The main focus of livelihoods in urban Africa has primarily been on household income and activities (Farrington et al., 2002). Thus, livelihoods as a concept have only been sufficiently studied and understood in rural settings (Ibid). There appear to be different priorities concerning macro and micro-economies in the creation of commercial streets. Survivalist strategies and poverty-driven decisions, as well as coping and wealth creation, both seem to result in the generation of commercial streets.

Based on the studied literature, there appears to be both a lack of knowledge about how urban settlements influence or support livelihoods and a lack of political will to integrate residents' livelihood activities into spatial development. (Majale, 2002). The role they play in micro- and macroeconomics, as well as their multifunctional character, remains unanalyzed and thus largely unknown (Okello, 2013). Planning and design parameters and processes involved need to be analyzed, understood, and documented to inform policymakers, professionals, and other key actors and will be an addition to livelihood and commercial street studies.

3.5.5 Unanalyzed Scarcity in Upgrading Urban Environments

As explained earlier, this study has relied on Western attributes of commercial streets as a general framework for discussing the qualities of informally generated commercial streets in urban Africa. The analysis, however, employed concepts that revealed and justified the local values and contributions. The idea of scarcity and abundance was thus used to show what is lacking and what is abundant from the perspectives of the users of space.

Since the analysis of resident-created urban environments is not sufficiently conducted, studies have pointed out that state-influenced spatial development interventions often miss their intended aim and instead lead to ruination rather than improving urban environments (Till, 2009; Tsing, 2017). In the context of Africa, Tanzania is no exception; the concept of scarcity and abundance is not only insufficiently utilized but also largely unknown. Suppose such concepts can be incorporated into spatial design. In that case, they can enable more active involvement from actors, supporting the design and planning process with and for residents rather than against what has already been established. This is sufficient to say that upgrading should equally provide for and improve the existing socio-economic fabric as it does the physical fabric.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses the research methodology, including the strategy, design, data sources, and methods employed for collecting and analyzing empirical data. The case study strategy used in the study is also illustrated. Empirical data was collected in five phases. The first phase, conducted between 2017 and 2018, was a reconnaissance study. Following this, the second phase, a pilot study, was conducted in 2019. The third phase (the first phase of main data collection), which was disrupted by the Covid-19 outbreak, was conducted between 2020 and 2021. The fourth phase was conducted in 2022, and the last phase of data collection took place in 2023.

4.2 Research Traditions

According to Yin (2014, p. 7), compared to established research traditions, such as experiments, surveys, and histories, which are specific to the nature of the research, case study research can address multiple research needs; it can be exploratory, explanatory, as well as descriptive (Ibid). To understand the residents' lived experiences in-depth, the case study approach, complemented by design anthropology, seemed the most suitable tradition because the study deals with the real-life context of actors – space, interactions, and interrelations inside the commercial street spaces on the one hand. On the other hand, it helped reveal tensions related to space use that existed along the commercial street before and after the road expansion.

4.3 Research Strategy

This study departs from a critical reflection on the emerging built environment in commercial streets in Dar es Salaam city. It analyzed the processes, actors, potentials, and shortcomings and explored common practices in the generation of commercial streets. The study required an appreciation of the contextual factors, as well as an in-depth analysis of the numerous actors and parameters.

Subsequently, a case study strategy was preferred over other strategies because it enables the study of the research issue within its emerging or existing context. It also offered an opportunity for conducting an in-depth study necessary to explore and understand the complex interaction between the actors, design processes, and forces shaping the creation of commercial streets. According to Kothari (2004, p. 113), the case study method facilitates an intensive study of social units. Yin (1994) adds that the case study strategy is a preferred strategy when the focus is on contemporary phenomena within a real-life context. In line with this argument is the fact that a case is an essential aspect of researchers' learning process in developing the skills needed to conduct good research (Flyvbjerg, 2001, p. 72).

The rapid and continuous informal formation of commercial streets along movement spines reflects dynamics related to how actors operate and how these processes recur to shape the spaces and character of commercial streets and, thus, the city. The research variables —actors' interactions, qualities of space, and self-organized processes — were analyzed in their real-life context to see how they relate to complexity theory, which was selected as the main theoretical lens. This necessitated the use of a case study strategy, which enabled a deeper understanding of each. Following a qualitative research approach, the primary methods employed included design anthropology, shadowing, observation, literature review,

and archival analysis. The use of instruments such as interview guides, video, photography, measurements, and sketching helped capture the qualities and behaviors of residents in the space before and after the expansion and improvement of the case study area (Shekilango Road).

It was critical to explore the context of this research, as the core issues or concepts — i.e., livelihood assets, informal design processes, and hidden or unanalyzed actor involvements — are apparent and continue to shape many of the movement spines in the city of Dar es Salaam. Since the main issues were actors' interactions, self-organized processes, and qualities of commercial streets, a thorough analysis of how commercial streets take shape required a general understanding of multiple areas with vivid manifestations of the phenomenon. This necessitated a reconnaissance and a pilot study, which were conducted before the main data collection.

4.4 Choice of the Case Study Area: Shekilango Commercial Street

According to Roth et al. (2015, p. 39), a street can link physical changes with occurrences such as policy interventions, technological shifts, and cultural practices in a specific area. Streets may vary depending on income levels, size, usage, accessibility, the population of bounding neighborhoods, proximity to centers, and other parameters. These aspects made it necessary to explore a street that has developed over time and is continually shaped by different factors and actors.

According to Stake (1995, p. 4), cases are not studied for the sake of understanding other cases but rather to capture their uniqueness, which in turn helps to illustrate several matters or phenomena that we often overlook. Stake points out that some cases might not perform well, and since it is possible to drop one or several, having a wide selection is advantageous (Ibid., p. 7). This necessitated a reconnaissance study to identify potential case study areas and select one suitable area. Stake (1995, p. 6) adds that the selection of a case can be based on its accessibility and awareness of its potential. These criteria were among the main factors for selecting the areas for the reconnaissance study. From observation, Dar es Salaam consists of a complex composition of neighborhoods, ranging from formally planned to unplanned (informal), rapidly transforming, slowly changing, and saturated.

Lupala identifies over 10 typologies of settlements in Dar es Salaam. They range from Institutional former European residential areas, medium density moderate height residential, high-density low-rise Swahili house residential, medium density low rise residential to extremely (super low) residential areas (Lupala, 2012, p.56-69). Old informal settlements include areas such as Keko, Chang'ombe, Buguruni, Kigogo, and Msasani (Ibid., p. 52). The Sinza and Kijitonyama areas were planned in the 1970s as high-density areas for low-income earners (Ibid, pp. 67-68). The Oyster Bay area, on the other hand, was planned in the 1920s by the British and is one of the areas in the city that is changing rapidly.¹²

According to Yin (2014, p.7), not only can the single case study strategy be a basis for significant generalizations, it can also be explanatory, exploratory, and descriptive. This was proven to be true in the study of the Cuban Missile Crisis, which involved multiple events. With the use of three theories, generalizations were successfully drawn.

¹² The observations on Oyster-bay's rapid transformation are based on the reconnaissance field studies conducted in 2018.

4.5 Research Design

According to Yin (2014, p. 28), a good research design is supposed not only to link empirical data, research questions, and conclusions in a logical sense, but it should also act as a plan that guides a researcher from data collection to analysis and, ultimately, to discussion and interpretation of data. The inquiry of this research, based on “how” and “why” questions, necessitated employing a case study strategy to conduct an in-depth study within the case study area. Relevant theories grounded in informal design processes and actors’ interactions along commercial streets have been carefully considered for reflection on the findings and how they diverge or converge with them. The units of analysis, which are actors and self-organized processes, are analyzed through the categorization of data. Since the case study is descriptive and explanatory, with largely qualitative data, the data was linked with the theoretical propositions using relevant interpretation strategies and techniques. Figure 14 illustrates the research design.

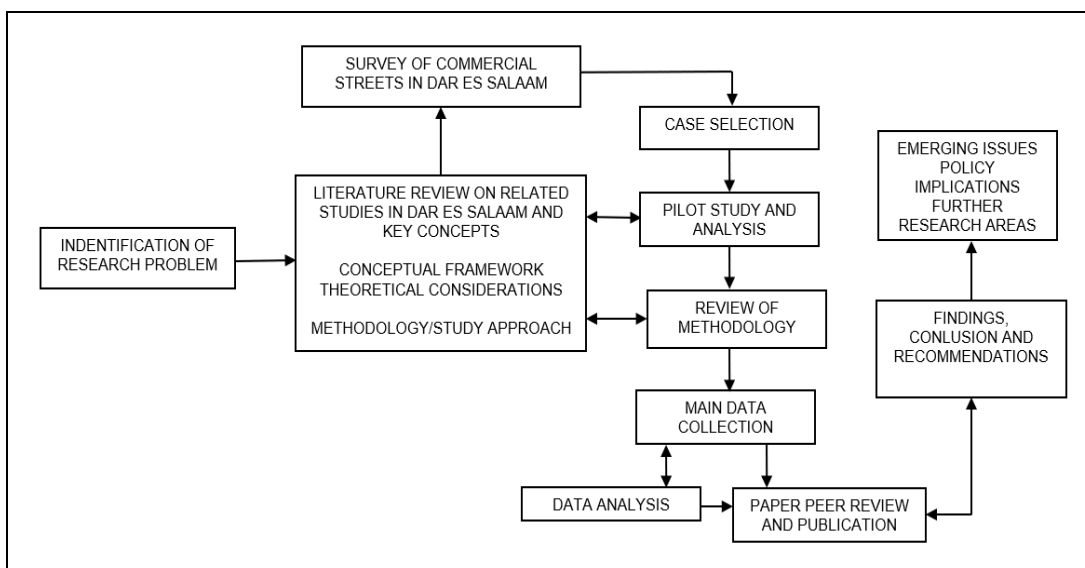


Figure 14: The research design diagram (source: author, 2021).

4.6 Unit of Analysis

The selection of one commercial street enabled an understanding of how commercial streets develop, particularly the dynamic processes involved. It also enabled an understanding of actors’ capacities and interactions that informed future participatory practices.

The unit of analysis in this sense are actors and design processes involved in the creation of self-organized commercial spaces. Through a stakeholder analysis (Table 10), property owners and tenants were selected based on their main role in creating spaces. Other actors such as local government officials were selected through the same process. Furthermore, property and business owners were purposefully selected for each property studied to obtain detailed information. Commercial spaces within streets in the selected location, which have been developed for over forty years and exhibit proliferating and vibrant commercial activities, provide a suitable ground for carrying out this research.

4.7 Study Approach

This section outlines the methodological approach for collecting data and the primary analytical framework for analyzing the collected data. The study employed an anthropological approach to collect empirical data and used complexity theory as the primary lens for analyzing the data.

4.7.1 Design Anthropology

The study employed an anthropological design approach in collecting data and was conducted before, during, and after a state-influenced and donor-funded road expansion. It employed ethnographic methods, such as participant observation, video recording, and talking and co-working with respondents, for instance, by welcoming and assisting customers and attendants to gain a deeper understanding of participants' lived experiences (Berry, 2011). A design anthropology approach was adopted, utilizing observation as the primary data collection method. From an anthropological point of view, despite anthropologists viewing built environments as structures that people create, which in turn shape people, they nonetheless focus more on people (Murphy, 2016, p. 438). This study employs design anthropology with a focus on the structures and people to gain a better understanding of the qualities of emergent spaces and how they contribute to livelihoods and the qualities of space. To unveil the deeply rooted meanings behind actors' decisions, Yaneva's (2012) pragmatic approach was employed to complement the design anthropological method.

The Pragmatic Approach: Observing People in Space against Observing Space

According to Yaneva (2012), a pragmatist approach highlights the 'weak' and indecisive sense of architectural processes but opens up architectural theory to the 'happening of things.' It is also respectful of the actors' understanding of shared meanings and the practices and processes they undertake to detect these meanings (Ibid., p. 43). Pragmatism is a set of processes that outlines what concerns actors about the design of cities and buildings and how they become attached to things, situations, and moments while sharing and discussing their concerns (Ibid). This approach enabled the researcher to observe how people create and experience space rather than studying floor plans and layouts and adding a human dimension to them. This calls, thus, for following how architecture happens, witnessing how actors attribute meaning to their actions, and tracking design processes (Ibid., p. 44).

4.7.2 Complexity Theory

Complexity theory serves as the primary analytical framework for this research. As earlier explained (3.2.1 in Chapter 3), it was used to analyze space generation processes through the first component (non-linearity). The second component (co-evolution) was used to analyze interdependencies among actors in order to identify how such interrelations reveal systems and subsystems. The third component (individual and collective actions) was used for analyzing actors' actions that were aimed at generating spaces for livelihood activities as well as standing up to top-down urban development processes (Klijn et al., 2009). Complexity theory was complimented by other theories and concepts, including 'Lines' and 'Scarcity'.

"Lines" and "Scarcity"– Justification of Actors' Interrelations, Tensions and Self-Organized Qualities in the Context of Dar es Salaam

Through the lens of Ingold's (2015) concept of "lines," we observe the significance of networks that Ingold refers to as "Meshwork" established when people cling to things and each other for expressions of security, love, and tenderness (Ingold, 2015). This study discusses why and how individuals cling to self-

organized environments and to one another for their livelihood needs. Tensions become part and parcel of the connectedness that binds people and things together, forming not only fundamental principles of coherence but also essential ingredients in holding forms together in place (Ibid). In the broader context, the concept of “lines” contributes to the understanding of actors’ interrelations.

In contexts where informality is paramount when considering the qualities of space, Western conceptualization may not capture the phenomenon in its entirety. It is vital to introduce concepts that reveal hidden or underrepresented aspects of urban realities. Hence, Till’s (2009) idea of scarcity and abundance sheds light on what truly lacks in urban environments and what is abundant from the perspectives of residents and the researcher’s observations. This concept, then, justifies the conceptualization of qualities put in place by non-professionals in comparison to Western attributes that professionals design.

According to Iossifova (2013), as a dialectic pair of abundance, it might be implied that scarcity must be hidden or vanquished to obtain abundance. Iossifova further stresses that scarcity is regionally differentiated, encompassing cultural, social, and economic conditions. What appears scarce in one community may be abundant in another, and others may flourish from it, as was the case of the Australian Aborigines discussed under 3.2.2.4.

When investigating the correct scarcity parameters that guide meaningful interventions in built environments, it is essential to understand that scarcity may not necessarily be a negative situation; instead, it can be something to work with rather than something to escape from. Scarcity as a concept can be positive if there is a proper evaluation of the roles and interactions among the client, designer, producer, and users of the built environment.

Iossifova further reiterates that the idea is to work with what one has, making more out of less by reducing resource use through efficient utilization of existing resources rather than adding more. To make such an approach sufficient, Till (2009) explains that one must listen and remain fully alert. He reiterates that it is necessary to approach users as part of power relations; an approach that makes them a dynamic part of the creative process in producing space. This also helped to uncover the influence of actors and their power relations. In self-organized urban environments, it is vital to actively engage users of space so that what is perceived as scarce and abundant can be well understood. Such an analysis is essential when investigating the positive and negative impacts of improvements and interventions to urban infrastructure that provide opportunities for livelihoods. Tsing’s (2017) idea of progress and modernization weaves the whole concept of intervention and conceptualization of the qualities of commercial streets. Thus, Tsing helps to establish the proper conceptualization process when we aim to improve (modernize) urban environments by understanding the appropriate scarcity and abundance parameters, enabling us to be more rational and achieve progress rather than ruination.

Improving or Destroying Existing Built Environments? Investigating the Right Parameters when Modernizing Resident-Generated Spaces

Tsing’s (2017) concept helped to put into perspective whether the upgrading project was pro- or anti-progress. This was achieved by conducting interviews with business owners, residents, and users, as well as observing them on both the old and newly widened roads. The study analyzed aspects such as users’

behaviors in socializing in the widened road's commercial spaces, the desirability of the freshly installed walkways, parking systems, and the character of the street.

The study, thus, explored seven major attributes namely:

- Inherent qualities of commercial spaces;
- Self-organized and informal processes;
- Creation processes of built-up space;
- Informal decision-making processes that have impacted the built-up space and livelihoods;
- Key actors, interrelations, and participatory design practices;
- Users' reactions and responses to spatial development proposals and;
- Social and physical livelihood assets in commercial streets.

4.8 Data Sources

This research gathered information on the formation of a commercial street, examining how actors and processes interact to generate its spaces, thereby impacting the built environment and meeting residents' livelihood needs. The following are the key data sources from which relevant data and information were obtained:

- Policymakers (Ministry of Lands, Housing and Human Settlements Development)
- Professionals: urban sociologists, engineers, and quantity surveyors - Kinondoni Municipal Council (Project Implementation Unit - PIU)
- Local government authorities: Sinza A, B, C and D
- Professionals responsible for Shekilango Road expansion
- Property owners and tenants along Shekilango Road and
- Users, residents, and passersby along Shekilango Road.

Table 4: Data collection methods employed and output

Activity	Method	Output
General data collection	Observation Archival outsourcing Interviews Video recording and photographs	General space use, space appropriation, qualities of space, users' interrelations and interactions and participatory practices
In-depth case description	Design anthropology Measuring and sketching Video recording and photographs Observation and shadowing Archival outsourcing Interviews; guide questions and focused group discussions.	Physical data, socio-economic, users' behaviors, actors' interrelations and interactions, self-organization practices

(Source: author, 2020).

Table 5: Data Collection Matrix

S/N	Research objective	Data	Data collection method	Technique	Respondents
1.	To identify actors and analyze their interactions and self-organized processes in generating commercial streets;	-Actors and actors' involvements in space creation; -Actors' interests; -Ownership and tenancy structures; -Self-organization practices in creating space and effecting change; -Meanings/attachments in the self-built commercial street spaces; -Interaction of actors; tensions, opportunities and challenges;	-Observation; -Interviews; -Documentary evidence; -Archival records; - Literature review; -Design anthropology.	-Direct (formal & casual) observation guide; -Sketches; -Photography and video recording; -Shadowing and Engaging with actors while they carry out daily activities; -Focused interview guided questions; -In-depth interview guided questions. -Shadowing	-Owners; -Artisans; -Business operators; -Other actors; architects, planners, designers; -Authorities; -Local government -PIU-Kinondoni Municipality -Road agencies; TARURA
2.	To explore and analyze qualities of self-organized commercial streets and how they can inform and inspire future planning and design of urban commercial streets and;	-Qualities of sitting, standing and protection; -Urban design inspirations; in the built environment; rhythm, symmetry, diversity, smells, sounds, display etc.; -Richness of commercial street spaces bill boards and verandas; -Socio-economic activities; -Physical and Social assets and; -Formal and informal economies	-Observation; -Archival records (master plans); -Interviews; -Literature review. -Shadowing	-Direct (formal) observation guide; -Sketching; -Video recording; -Photography; -Measurements.	-Professionals -Authorities; -Road agencies; TARURA
3.	To propose participatory design approaches that tap into actors' interactions, processes and qualities of self-organized commercial streets in the context of Dar es Salaam, Tanzania.	-Participatory design approaches; -Participation in the context of Tanzania; -Contextualization of participatory models. -The link between self-organized commercial streets with livelihoods	-Interviews; -Literature review; -Documentary evidence.	-Guided questions	-Property owners; -Business owners; -Professionals -Local government -Municipal council -Users

(Source: author, 2020).

Table 6: Data collection phases

S/N	Phase	Period	Method	Tools/techniques	Respondents
1	Reconnaissance	2017-2018	Interviews Observation	Guided questions Photography	Landlords Tenants
2	Pilot study	2019 & 2020	Structured and Open-ended interviews Observation	Photography/video recording Guided questions Sketches Measurements Narratives	Landlords Tenants Residents
3	Main data collection	2021	Design anthropology Open ended interviews In-depth interviews Focus group discussions Observation	Shadowing/shopping/dining Assisting/co-working Guided questions Photography/video recording Sketches Measurements	Landlords Tenants Residents Local government Ministry Professionals
4	Main data collection	2022	Design anthropology Open ended interviews In-depth interviews Observation	Shadowing/shopping/dining Assisting/co-working Guided questions Photography/video recording Sketches Measurements	Landlords Tenants Residents
5	Data collection	2023 onwards	Design anthropology Observation	Shadowing Shopping Dining/recreation	Tenants Residents

(Source: author, 2024).

4.9 The Case Selection Process

The main aim of the reconnaissance studies conducted between July and August 2019 in Dar es Salaam was to investigate the general character and the nature of the built environment along the major spines of the city. Commercial streets in planned and unplanned settlements within five districts, namely Ubungu, Temeke, Ilala, Kigamboni, and Kinondoni, were selected. Shekilango commercial street in Sinza, was among the studied streets. The following Table shows wards in formal and informal settlements that were selected (refer to Figure 15).

Table 7: Studied areas and streets

S/N	Ward/area	Road/street
S/N	Planned areas (wards/areas)	Street/road
1	Mchafukoge (Posta)	Jamhuri St., Ghana Av. and Garden Av. and Azikiwe St.
2	Mbezi (Tegeta)	Kwa Ndevu – Kibo Commercial Complex
3	Kariakoo	Tandanti St., Nyarung'ombe St, Muhonda St. and Aggrey St. and Msimbazi Rd.
4	Kawe (Ukwaamani)	Ugoweni Makaburi Matatu St, Mbuyuni St and Soko la Zamani St.
5	Sinza	Shekilango Road, Sinza Madukani St., Dolphin St. and Franco St.
6	Mikocheni	Old Bagamoyo Road
7	Msasani (Oysterbay)	Haile Selassie Road
	Unplanned areas	
8	Manzese	Morogoro Road
9	Yombo	Kwa Lugenge, Yombo Buza
10	Makongo	Makongo CCM and Makongo Mwisho
11	Keko	Kawawa Road
12	Mbagala (Zakim)	Kilwa road
13	Msasani	Makangira

(Source, author, 2022).

Some of the areas posed challenges during the collection of data and information due to reasons such as previous conflicts with city authorities, safety concerns, and the willingness of prospective interviewees to cooperate, as well as busyness or unavailability. A total of 52 interviews (4 in every ward) were conducted. Respondents (business owners) were selected based on the criteria in Table 12 (purposeful sampling).

According to (Yin 2003, p. 47), cases should predict either similar or contrasting results or literal or theoretical replication, necessitating the study of several formal and informal settlements. Since more than 70% of the inhabitants in the city live in informal areas, Kombe (2005), and based on the fact that most of the informal settlements in Table 8 have scored high in the crucial indicators, it seemed important and relevant to study both informal settlements and formal settlements with informal characteristics.

Since the study is expected to inform planners, urban designers, and architects on planning and design standards, it also seemed crucial to select a formal settlement that has manifested informal characteristics. In addition, informal settlements that occur spontaneously are not guided by development conditions and regulations and did not seem to be ideal case studies for this research. This is because the main aim was to identify actors' interactions, self-organized processes, and outcomes of self-organized processes that employ tacit knowledge and informal processes in planned areas.

Commercial streets in formal settlements qualify for this study, as they exhibit indicators of informally designed spaces, appropriation, transformation patterns, and informal qualities that can inspire future commercial street design. According to Vedasto et al. (2013, p. 169-170), not only has Sinza transformed from a formal to an informal area, but it also shows evidence of residents' efforts in tackling every day and real-life social and economic challenges through informal processes.

In addition, Vedasto et al. have pointed out that involvement and freedom are essential in spatial development; thus, collaborative planned practices seem to be missing. Furthermore, they emphasize

that the lack of participation of key actors is both a social and economic burden (Ibid). These explanations justify the selection of Sinza for studying informal design processes, the nature and potentials of participation, and livelihoods. In this regard, Sinza is a typical case that represents areas in Dar es Salaam with similar spatial development patterns, such as piecemeal construction and informal developments, including extensions and conversions.

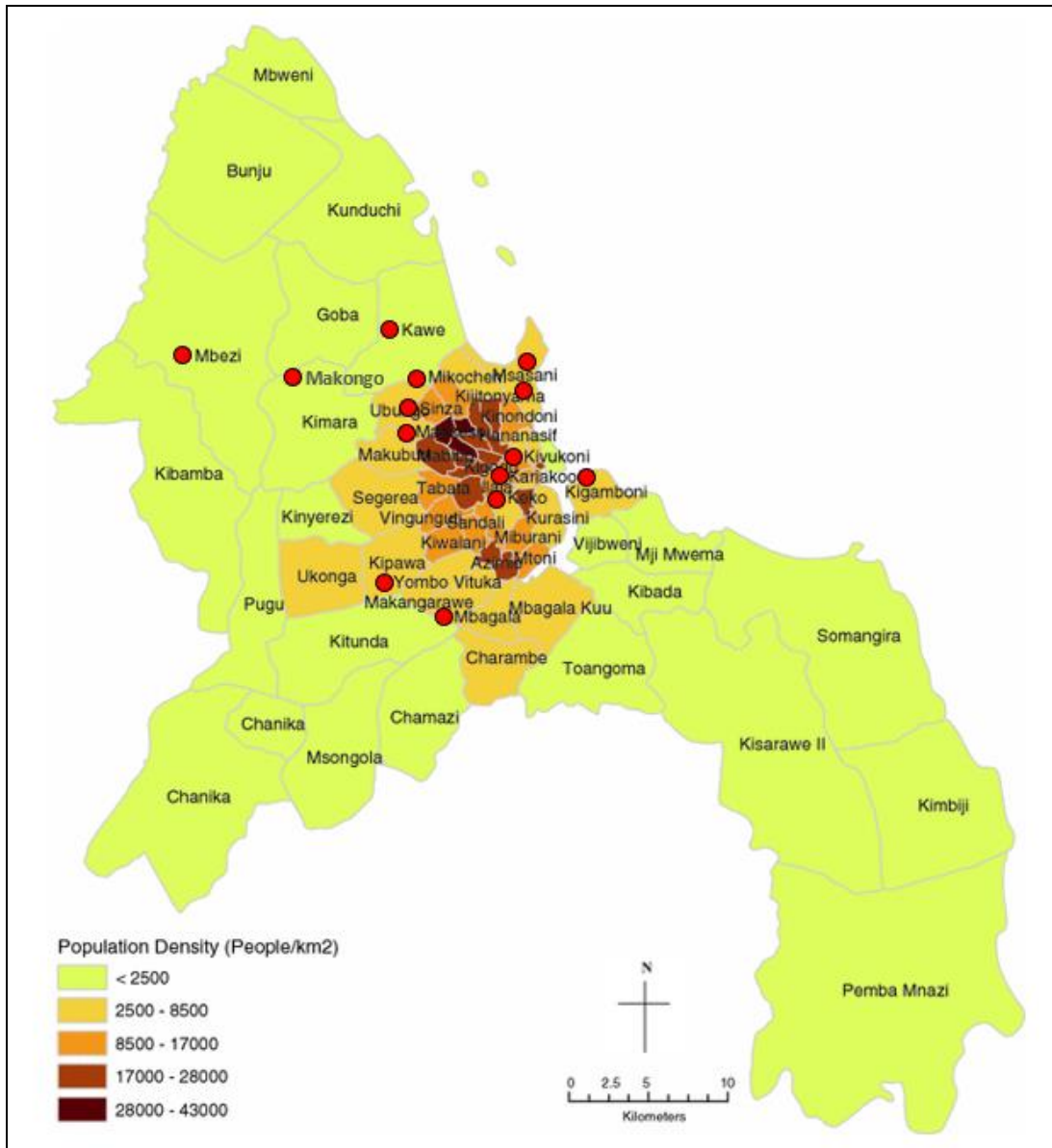


Figure 15: Map of Dar es Salaam. The population and location of areas where commercial streets were selected.¹³

¹³ Source: <https://link.springer.com/article/10.1007/s10113-011-0239-4> (modified by author), accessed 12/10/2018, 16:27.

Table 8: Selected Areas¹⁴ And Investigated Variables

Area	Indicators of Informal design/ appropriation	Indicators of different actors	Indicators of livelihood strategies	Indicators of functional transformations.	Willingness of respondents to talk	Education Level	Commercial typologies and vibrancy
Posta	*	*	*	*	*	****	**
Kariakoo	*	*	*	*	*	***	**
Kawe	***	***	***	****	***	****	***
Sinza	****	****	***	****	****	***	****
Mikocheni	**	***	***	****	***	****	***
Oysterbay	**	***	***	****	****	****	****
Yombo	****	***	****	***	**	*	****
Makongo	****	****	****	***	****	****	****
Keko	****	****	****	****	***	*	****
Mbagala	****	****	****	***	***	*	****
Msasani	****	****	****	****	***	***	****
Mbezi Beach	***	***	****	****	****	****	***
Tegeta	**	***	***	***	***	***	***
Manzese	****	*****	****	****	***	**	****

*Very weak; **weak; ***strong; ****very strong; NA not applicable (source: author, 2021)

¹⁴ The results are based on the reconnaissance study, debriefing sessions with research assistants after collecting data and author's general familiarity with the city.

Table 9: Description of Criteria for Assessing Suitability of Selected Areas

INFORMAL DESIGN/SELF BUILD/APPROPRIATION INDICATORS	INDICATORS OF DIFFERENT ACTORS	INDICATORS OF LIVELIHOOD STRATEGIES	INDICATORS OF FUNCTIONAL TRANSFORMATIONS.	WILLINGNESS OF RESPONDENTS TO TALK	EDUCATION LEVEL	COMMERCIAL TYPOLOGIES AND VIBRANCY
Indicators that show spatial development patterns that are intuitive and do not involve professionals.	Presence of skilled and unskilled laborers, owners, operators, users, professionals, authorities, and other actors	The availability of formal, informal commercial spaces that reflect wealth and survivalist strategies.	Evidence of co-existence of both residential and commercial uses and the dominance of commercial spaces in the area and along streets.	How cooperative the respondents are with respect to responding to questions or discussions that are raised.	Literacy of the various actors which in turn affects the responses.	The availability of different types of commercial spaces and liveliness along streets.

(Source: author, 2018)

Table 10: Stakeholder Matrix

ACTOR	CATEGORY	CONTRIBUTION/ LEVEL OF IMPORTANCE IN INFLUENCING SPACE AND SPACE USE	CONTRIBUTION ON FOSTERING LIVELIHOODS	CONTRIBUTION ON DESIGN AND PLANNING
Property owners	Primary	*****	*****	*****
Tenants	Primary	*****	*****	*****
Authorities Municipal council (PIU) Professional boards Local government	Primary Secondary Secondary Primary	*** *** ** ***	***** ***** * ****	*** ** ** **
Road expansion Experts/ professionals	Primary	*****	*****	*****
Road agencies	Primary	*****	*****	*****
Ministry	Primary	*****	*****	*****
Others; corporate companies, artists, carpenters, welders etc	Secondary	*	*	*
Residents, passersby and customers	Secondary	*	*	*

*very weak; **weak; ***strong; ****very strong; NA not applicable (source: author, 2021).

4.10 Data Collection Methods

This research employed a qualitative method as the primary data collection and information-gathering method. The qualitative approach requires the researcher to conduct research through long-term contact with the field in order to gain a holistic understanding of the culture and context (Shaw, 1999, p. 13). This approach requires a close examination of the particulars of a study area, which is then discussed, analyzed, and interpreted and subsequently informs larger issues or themes.

According to Miles et al. (1994) and Greene (1994), the qualitative approach enables the capture of data based on the perceptions of local actors from the inside through deep attentiveness and empathetic understanding. The approach effectively raises the unheard or neglected voices and sheds light on what is hidden or unacknowledged. The qualitative method is relevant in this study because it focuses on the unheard voices and unrecognized efforts of various actors involved in the creation of commercial streets in Dar es Salaam.

With its uniqueness, the context required the study of the particular, which also called for an empathic approach to understand actors' interactions and interrelations and generated qualities that make up the commercial streets. These, in turn, converge or feed into the complexity theory.

4.10.1 Design Anthropology

According to Ingold (2015), design anthropology is an inquiry into the everyday conditions and possibilities rather than that of what has already come to pass. It deepens and operationalizes the understanding of networks, systems, and self-organization amongst actors and establishes an essential link between informal urban developments and livelihoods. Design anthropology, including shadowing, interviews, and focused group discussions, helped to understand actors' connectedness through Ingold's (2015) concept of "Lines."

The design anthropological approach, which enabled a deeper understanding of the case study, involved multiple researchers engaging as shop workers, customers, and passers-by prior to, during, and after the road expansion. Through engaging with and observing how respondents interacted with neighbours, customers, and authorities, a deeper understanding of the social assets was obtained, which is necessary for supporting self-organized practices. Throughout the entire data collection period, the researcher frequently shopped, ate, and worked (Figure 16) within the Shekilango commercial street in an effort to continue observing how users respond to and adapt to the state-driven road expansion project.

Interviews, in the form of guiding questions, complemented design anthropology. They were geared towards understanding how business owners interact with different actors to establish interdependencies, which in turn affect livelihoods. The interviews focused on collecting narratives from various business and property owners, aiming to tell the stories of the businesses' histories, challenges, and benefits. They captured stories related to business start-ups and changes in business spaces resulting from various factors, such as business growth. Also, real-life stories of people who have benefited from the commercial spaces were captured.

The combination of different methods was necessary due to the respondents' busy schedules. For instance, being part of the moments when respondents (business owners) talk over the phone or interact physically with customers, deeper understandings of interrelations were observed.



16(a)



16(b)

Figure 16: (a) The researcher shadowing over lunch and (b) Co-working and interviewing near Makaburini (source: author, fieldwork 2020 and 2023).

4.10.2 The Pilot Study

According to Yin (2009, p. 92), a pilot case study enables the refinement of data collection plans in terms of content and procedures. It also helps to develop relevant lines of questioning and, at times, conceptual clarifications. This study employed a pilot study to establish a clear picture of the research and test the clarity of the questions posed. The primary objective of the pilot study was to test the proposed methodology by initially focusing on a single case study, with property owners and tenants as the key respondents. One street was selected. Nine (9) businesses/commercial spaces were studied along Shekilango Road. The guided questions employed in the pilot study are attached as Appendix 4.

4.10.3 Interviews

Interviews are one of the most important sources of information for conducting case studies in research. Case study interviews not only require that the researcher satisfies the needs of his or her inquiry but also require him or her to ensure that clear and non-threatening questions are asked (Ibid, p.106-107). Since this research involved interviewing various actors with different income and educational backgrounds, an open-ended interview that focused on 'how' questions was essential. Interviewees were selected based on their knowledge of the information that was sought. Landlords, business owners, or their representatives were selected based on the period of time they had been on Shekilango Road and their knowledge of the evolution of the property or business. Two interview types were employed:

- **In-Depth Interview**

In-depth interviews involved observing and interviewing key respondents to establish insights into certain occurrences. Such respondents included local government leaders from Sinza A, B, C, and D, professionals from the MLHSD, consultants for the Shekilango road expansion project, and property owners. In-depth interviews served as a basis for identifying other potential data sources and/or interviewees. At the local authority level, streets fall under sub-wards (Mtaa) (Table 11). According to Limbumba (2010, pp. 79-80), sub-wards are governed by a chairperson who is elected by the residents every five years. They oversee the implementation of city by-laws, development plans, and collection of

revenues from tenants and/or property owners for the municipal council. They also deal with the informal development of land, document the population, and act as witnesses in the sale of land (Ibid). Table 11 shows the central and local government structure in Tanzania. In this research, four (4) in-depth interviews with street/mtaa executive officers and two (2) interviews with ward leaders were conducted. These interviews revealed information on participatory practices, interactions between actors, and self-organized processes.

Table 11: The Central and Local Government Structure in Tanzania.

	Central government administration	Local government administration
National level	Ministries including Prime Minister's Office – regional Administration and Local Government (PMO – RALG)	
Region/city	Regional Secretariat, Regional Commissioner, Regional Administrative Secretary.	City Council, headed by City Mayor, City Director.
District/municipality	District Commissioner, District Administrative Secretary	Municipal Council, headed by Municipal Mayor, Municipal Director.
Ward		Ward Development WEO/Chairperson and a councilor
Village (rural) or sub ward (urban)		Village council

(Source: DCC, 2008, updated by author, 2023).



Figure 17: An interview with Sinza 'A' street/mtaa executive officer at the Sinza A local government office. (source: author, fieldwork 2022).

• **Focus Group Interview**

Five (5) focused interviews were conducted with twenty two (22) motorcycle operators who were stationed in groups. The main selection criteria was location (from different sections of the road) and registration status (informal or registered). The interviews involved four (4) unregistered station and one (1) registered station. Open-ended interviews enabled the obtaining of fresh narratives from the interviewees. As these actors were present in significant numbers, focused group discussions were conducted efficiently, saving time and resources. These interviews revealed the interdependencies among

the motorcycle operators and their customers, as well as the choices made for their locations. They also showed the tension that exists among the operators, the commercial street spaces, and other operators, as well as how they were integrated into the newly expanded road.

4.10.4 Observation

Relevant behaviors or environmental conditions in the natural setting of the case are another source of evidence in a case study (Yin, 2009, p.109). The direct observation method helped observe key respondents (tenants and property owners). Both formal and casual techniques were devised (Ibid). When observing technical issues such as adherence to laws and regulations in the creation of spaces, formal techniques based on set instruments are essential. Aspects such as income levels, frequency of use, users' responses, and people's behaviors involved a more casual observation technique, which is based on the researcher's judgment of observed conditions and behaviors. The observation techniques were complemented by photographs that captured important activities, behaviors, and reactions. Photography and video documentation were thus taken as two of the main data collection techniques.

4.10.5 Documentary Evidence

In the case study approach, documentary analysis plays a significant role in the data collection process (Yin, 2009, p. 103). Yin notes that caution must be taken when dealing with documents, as some may be deliberately edited before being printed. Documentary evidence in this research was thus supplemented by verifying the evidence or seeking evidence from other sources (such as carrying out more interviews related to the information that was presented). Documents such as letters, correspondences, and minutes of meetings were sorted, studied, and reviewed. Visual records (maps) of Shekilango Road provided substantial evidence of the physical characteristics of the road before and after the road expansion. Other sources of information, such as observations, and techniques such as filming and photographs, were used to complement the documentary evidence.

4.11 Data Analysis and Interpretation: Grounded Theory.

According to Dey (1995), data analysis in qualitative research is largely intuitive and relativistic, relying on intuition, insight, and impression. Creswell (2007) contends that writers in qualitative research craft the study differently with analytical procedures that evolve in the field.

In this research, data processing was conducted through debriefing sessions with the research assistants immediately after data collection. The debriefing sessions involved discussions of the interview responses and observations of space standards and use, which were collected through participant observations. The sessions were key in familiarizing with the collected data; they were also valuable for structuring the data. Subsequently, data (photographs, videos, and interview responses) were organized according to the subthemes, including actors' networks, involvement of professionals, and space appropriation. The structuring of the data enabled a smooth analysis process.

Prior to the analysis, limitations were outlined (appendix 5). These limitations were intended to eliminate bias in the data analysis. For instance, interview responses centered on parking spaces and access to business premises during the road construction, and some respondents were hesitant to disclose information, fearing they would be reported to the authorities. Afterward, memos (Stake, 1995) or general statements were prepared based on the critical reflections and interpretations (appendix 5). The memos are in the form of reflections on gaps and inconsistencies in disseminating information to

residents, the involvement of residents, and the distinction between casual/informal and formal interactions between residents and contractors, as well as the positive and negative contributions to the built environment.

After the limitations, codes, categories, themes, and subthemes were established. For instance, the first code was "*adherence to regulations*" within the category "urban residents spatial development practices," with themes including "informality, design and planning," and sub-themes such as "*building permit application, setback and plot coverage standards and involvement of professionals.*" This was followed by assigning theories grounded in the data to analyze the subthemes. Informal urbanism, urban planning, and the social production of space are the theories that were applied to this data.

Lastly, explicit connections were drawn. The explicit connections, backed up by logic, pattern matching, and explanation building, enabled generalizations of the data. Every phase of data collection was analyzed in relation to the explicit connections to identify meaningful and repetitive patterns and determine whether the data aligns with or diverges from the assigned reflections and theories.

The analysis strategy for this research is a combination of three of the four general strategies developed by Stake (1995):

- Relying on theoretical propositions or theories
- Case study description
- The use of qualitative data

Out of the five techniques explained by Stake (1995), three were used interchangeably: pattern matching, explanation building, and logic models. According to Stake (1995, p. 126), an analysis strategy is vital, as it depends on the style, the sufficient presentation of evidence, and careful consideration of alternative interpretations. Stake further explains that it is the analytic strategy, not the data, that crafts the story that every case has.

4.12 Credibility of Research Findings

According to Stake (1995, p. 7), a case should be studied in detail and in-depth for it to yield several generalizations. This, in turn, helps to create modified generalizations based on different circumstances and respondents that exist within the case. The reconnaissance study, which was based on other commercial streets in different settlements with typical characteristics, offers a fair generalization mechanism. In addition, the design anthropological approach employed enabled modified generalizations, as it produced interpretations close to reality based on close interactions with both residents and their environment.

4.13 Validity: Triangulation and Member Checking

The opportunity to utilize multiple sources of information is one of the major strengths of a case study data research approach. Multiple sources help to establish a broader range of historical and behavioral issues. In addition, this approach also enables the development of converging lines of inquiry (Yin, 2009, pp. 114-115). The use of interviews, documentary evidence, direct observation, and literature review in understanding various theories and how they relate to different phenomena in the study forms a basis for triangulation. As an example, to understand participatory practices and the evidence therein, residents,

local governments, the client (Kinondoni Municipal Council), and the consultants for the Shekilango road expansion were interviewed.

Case studies rely on analytical generalizations that inform a broader theory (Ibid., p. 43). In this case, the results were analyzed based on the specific selected theories to eliminate the idea that a single case study cannot produce results applicable to other cases. It also rules out the notion that survey research, which uses samples, generalizes to a larger universe, contrary to case research.

According to Stake (1995, p.109), even though we deal with many issues and phenomena that are complex and with no consensus, we still need to minimize misinterpretation.

According to Denzin (1989), co-observers, panelists, or reviewers from alternative viewpoints are vital in the interpretation process. This is referred to as '*theory triangulation*' (Ibid). This helped to minimize misinterpretation and served as a source of additional meaning rather than merely confirming a single meaning (Flick, 1992). This study involved panelists from UHasselt and Ardhi University, who served as co-observers, becoming aware of the selected cases and the interpretation process.

According to Stake (1995, p. 115), member checking entails the involvement of actors in examining actions and words to review the materials. Member checking was done during the data collection process. This helped to obtain alternative language and interpretation, and formed a strong basis for the reviewing and analysis processes.

4.14 Reliability

According to Yin (2009), to ensure the reliability of the findings, other researchers must draw similar findings and conclusions if they conduct the same research in the same case. The researcher is thus required to work like an accountant or bookkeeper who knows that audits will follow (Yin, 2009, p.45). The research methodology commenced with a reconnaissance study, outlining step-by-step procedures for identifying the strategy, selecting cases, and determining data collection methods. All the chosen sub-cases are verified using locations and photographs. Key informants' details in terms of names, phone numbers, and positions in the respective organizations are also shown. The analysis method and technique are explained in detail, and data/information are systematically documented to provide evidence in case one wishes to carry out an independent audit.

4.15 The Single Case Selection and Justification

The reconnaissance and pilot studies justified the selection of one case study, as the observations from the selected streets revealed patterns of informal space generation that were similar to those of any other case selected for study. With the author's main curiosity being how, why, by, and for whom the informal creation of commercial street spaces happens, and with design anthropology as a means of collecting data, a single case was desirable. Design anthropology made it possible to spend more time with respondents by observing them as they interacted with the space they created and other actors to understand how space comes into being, what it should be like based on use, and how livelihoods are addressed.

According to Flyvbjerg (2001, p.66-75), a single case can be used to generalize findings and yield significant research results. However, what matters is how the selection was made and the numbers that

are analyzed (Ibid). It is a misconception among proponents of natural science that a single case cannot be generalizable; however, even in natural science, the selection and quantitative aspects of the case justify relying upon it (Ibid., p. 73). Referring to Aristotle, who questioned his teacher Plato, who questioned his teacher Socrates, generalizations come from understanding the particular rather than universals (Ibid). Other contemporary researchers who have supported the single case include Stake (1995) and Siggelkow (2007).



18(a)



18(b)

Figure 18: (a) The location of Sinza and (b) The Shekilango commercial street. ¹⁵

Shekilango Road runs across four wards, namely Sinza A, B, C, and D (Figure 18b). It is within the confines of these wards that the study was conducted. Shekilango Road is situated within the Sinza high-

¹⁵ Source: Google earth accessed 13:53, 15th September, 2021.

density residential area, which was conceived in 1970 as a single-storey residential neighborhood intended for a single family on a single-plot design (Vedasto and Mrema, 2013).

Today, the Sinza area is a mix of multi-storey and single-storey units, accommodating multiple families, and is undergoing a transformation of its streets from residential to commercial nature. The road connects two trunk roads (Figure 18a, 19b): Ali Hassan Mwinyi and Morogoro Roads. It is a street within Dar es Salaam that has undergone significant transformation over four and a half decades, becoming increasingly popular for its retail outlets, which offer a rich shopping experience. The self-organized development processes also pose challenges related to the inadequacy of parking space, lighting, ventilation, and spatial qualities (Moshi, 2009) for both users and authorities, and call for an analysis of the impact of this transformation on the livelihoods of neighborhoods.

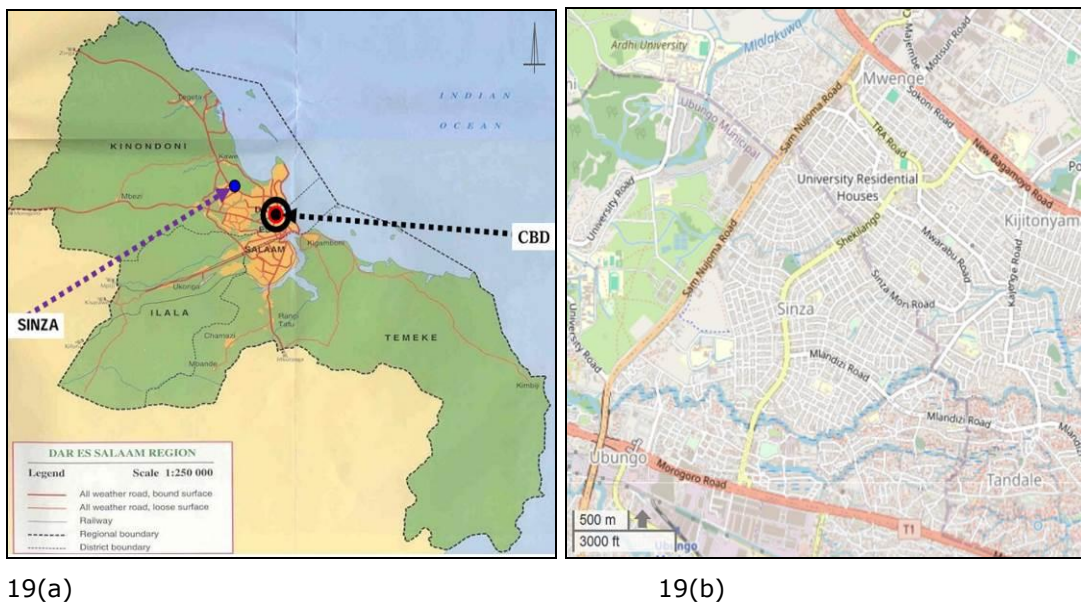


Figure 19: (a) The location of Sinza and (b) Shekilango road which connects Morogoro and New Bagamoyo roads. ¹⁶

I studied the 3.7 km-long Shekilango road in Sinza. This case is selected as a typical example since many streets in the city are undergoing a similar transformation, driven by actors and self-organized design processes. The focus of the study was on landlords (property owners) and tenants (business owners). This category of actors was the main subject of study as they are actors who are directly involved in the everyday generation and use of spaces. They are also involved in the day-to-day operations of the businesses. In the design anthropological work, I engaged with the tenants/users as secondary designers in the operations of the shop to capture the everyday activities that occurred through interviews and observations done when they interacted with customers.

The section selected during the pilot study on Shekilango Road has a length of 1.8 kilometers. Subsequently, in the periods of study to follow, out of 148 plots, 50 on one side and 98 on the other side of the road, thirty nine (39) plots were studied with the help of 21 research assistants during the period 2018-2023. Parking space and accessibility were further studied on twenty-two (22) additional plots, making the total number of sixty-one (61) studied plots. Purposeful sampling (Table 12) was used to

¹⁶ Source: Vedasto et al., 2013 and openstreetmap.org, accessed 16/03/2020 13:32 Hrs.

select plots based on five criteria: land use, function, outdoor amenities, activities, and quality of space, as well as informality and livelihood activities.

Table 12: Purposeful Sampling and Plot Selection Criteria

CRITERIA	CHARACTERISTICS/TYPOLOGIES
Land use	Mixed use/commercial and commercial
Function	Multiple commercial shops (29)
Outdoor amenities	Informal block factory (1)
	Restaurant/fast food kiosk (4)
	Multiple cereal shops (1)
	Outdoor green space (1)
	Car wash (1)
	Multiple commercial spaces & hotel (1)
	Bar and restaurant (1)
	Total 39
• Blocked parking spaces	Analysis of parking and accessibility (39)
• Encroachments	Additional plots with parking at the front (22)
• Availability parking spaces	Total 61
	Parking space, public space and veranda
Outdoor activities and qualities of space	Qualities for sitting and standing Multi-use, necessary, optional and social activities Richness, diversity and signage
Informality	Piecemeal construction, conversions, extensions, non-adherence to regulations, encroachments, informal parking spaces, space appropriation
Livelihood activities	Survivalist, coping and investments, informal economies and interdependencies

(Source: author, 2023).

The study involved a reconnaissance of both sides of the street through observation, taking videos and photographs of the spaces along the road to establish the character. Within the entire stretch, the compounds include residential, office, industrial, mixed-use, cemetery, accommodation, recreational, religious, and commercial plots. Out of the land uses, only plots with a commercial character were selected randomly. Due to the limited time and unsettledness of respondents, interview and observation times varied between 1.5 and 3 hours. The longest was an interview with a tenant who runs an importation business, a mini supermarket, a restaurant, and an online business platform. The respondent also empowers women by offering career and business advice. The interview lasted at least 3 hours, and another discussion and observation with the respondent while her customer was away at a different location outside the road lasted at least 6 hours.

In the pilot study and the main data collection phases, a total of one hundred and nineteen (119) respondents were interviewed in Swahili language, and some were recorded using digital audio recorders. Five (5) FGDs involving twenty-two (22) motorbike operators were also conducted. These 119 interviewees included one (1) consultant of the road construction, two (2) P.I.U. experts, one (1) municipal project manager, one (1) TARURA Engineer, One (1) MLHHSD senior planner, two (2) ward leaders, four (4) street executive officers, ten (10) property owners, forty-three (43) business owners, twenty-nine (29) residents and passers-by and twenty-five (25) informally employed individuals. Thirty-nine (39) residential commercial compounds and plot frontages and twenty-two (22) parking spaces were studied and analyzed. The interviews involving the key users (landlords and business owners/tenants) that were planned were fifty (50) business owners/tenants and twenty five (25) on fifty (50) plots.

4.16 Chapter Summary

This study employs a case study as the research strategy. The unit of analysis are the actors and self-organized processes. The study employed design anthropology, interviews and observations for collecting empirical data. The case study is Shekilango Commercial street in Dar es Salaam, Tanzania. The empirical data collection was conducted in five phases between 2017 and 2023. The phases include reconnaissance, pilot study and three main data collection phases. Thirty nine (39) plots and twenty two (22) additional parking frontages were selected through a purposeful sampling process. The analysis employed three main strategies; the use of qualitative data, relying on theories, and case study description. The data analysis techniques are pattern matching, logical models and explanation building. In what follows, I discuss the context of the case study area and provide a summary of the main observations from the reconnaissance phase to establish a link between the studied commercial streets and the Case study street.

CHAPTER FIVE

THE CONTEXT OF SELF-ORGANIZED SPACES AND INFORMALITY IN DAR ES SALAAM

5.1 Introduction

This chapter presents the concept of self-organized spaces in Dar es Salaam. It discusses the historical development of Dar es Salaam to underscore the underlying factors of development, which, among others, include informality and self-organization processes. It also discusses urbanization, road management and development, and the regulatory framework employed in spatial development in Dar es Salaam.

This chapter also presents the spatial structure of Dar es Salaam, whose development pattern follows traffic spines, develops outwards, and continues to concentrate along them. In essence, these roads not only trigger urban development but also demonstrate that historically, settlements and roads have often developed concurrently. As such, they address the needs and preferences of residents. This chapter also illuminates informal urbanism and self-organization as creative and intuitive processes that complement top-down spatial development in many African cities. Lessons from the pilot study settlements in Dar es Salaam are presented as evidence of recurring self-organized processes along movement spines. Lastly, the chapter discusses the potential and drawbacks of self-organized processes and spaces.

5.2 Planning and Regulations in Dar es Salaam

Dar es Salaam has undergone spatial planning, land use development, and regulatory regimes that are known to have shaped it to date. From the late 19th century to 1945, policies were geared towards exploitation, domination, and racial discrimination, which divided the city into zones: the European, Asian, and African zones. The segregation was done to ease the domination and privilege of European and other non-native populations. The investment and infrastructure varied according to racial groups in particular areas (Brennan et al., 2007, p. 98). Between 1946 and 1961, the colonial government took charge of providing housing and services for Africans, as well as managing urban growth and land development.

The first master plan for Dar es Salaam was prepared in 1948 by a foreign (Canadian) firm, Gibbs and Partners. To manage the city's growth, two reviews were conducted, one in 1968 and another in 1979 (firms from Canada prepared both reviews) (Burian et al., n.d.). Since the 2000s, Dar es Salaam city has not had an official and up-to-date master plan to guide its development. By 1999, the master plan prepared in 1979 had technically expired, but it was still being used (Kasala, 2015). Due to the ineffectiveness of the 1979 master plan (Tamla, 1997, p. 123), city officials resorted to using support schemes to handle strategic areas in the city, such as Kariakoo and Oyster Bay.

In the early 1990s, the DCC, with the support of UN-Habitat and UNEP, prepared the Strategic Urban Development Plan (SUDP) to replace the 1979 master plan. Still, this document fell short of the traditional master plan document, and it was not approved by the gatekeepers of urban planning in Tanzania, namely the Ministry of Lands (MLHHS). The Strategic Urban Development Program (SUDP) is an output of the Environmental Planning and Management Process (EPM), which was introduced through the Sustainable Dar es Salaam Project (SDP). Dar es Salaam was one of the cities implementing the Sustainable Cities Programme (SCP). SCP was a joint program funded by the United Nations Centre for

Human Settlements (UN-Habitat) and the United Nations Environment Programme (UNEP). (DCC, 2005, p.iv). The program was launched in 1992, with its primary objective being to enhance DCC's capacity to plan and manage the city's growth and development in partnership with stakeholders from the public, private, and community sectors. One of the key outputs of the program was the establishment of the Department of Planning and Coordination, with the deputy city director as the officer in charge (UN Habitat, 1999, p. 49-50). Another objective was to develop a long-term plan to guide the city's growth and development (DCC, 2005, p. 4).

As opposed to the master plans, the SUDP was seen as a short-term plan that prioritized only a few (nine) environmental issues, including servicing city expansion, air quality management, urban transportation, and coordinating city center renewal¹⁷. In addressing proposed city growth and development patterns, potential areas for city expansion were identified through zoning (Zones A-G). Much of the program's focus was on densifying the inner city and residential buildings owned by government institutions, such as those located in Temeke, Ilala, Kurasini, and Kinondoni (DCC, 2005, p. 12).

SUDP only used indicators and did not have guidance tools; it was not a plan prepared according to a traditional master planning approach. Instead, it was a flexible tool that pointed out the existing situation and could not be used as a master plan. As noted earlier, owing to this, SUDP was not appreciated by the custodian of spatial planning, namely MLHSD. The Central Area Redevelopment Plan (DCRP) is another response to urbanization patterns that was prepared by the Human Settlement Division of the MLHSD in collaboration with the City Commission following the increasing pressure for city center business space and the fact that the city center was incapable of supporting the demand for office space in a vibrant market (MLHSD, n.d., p.iv).

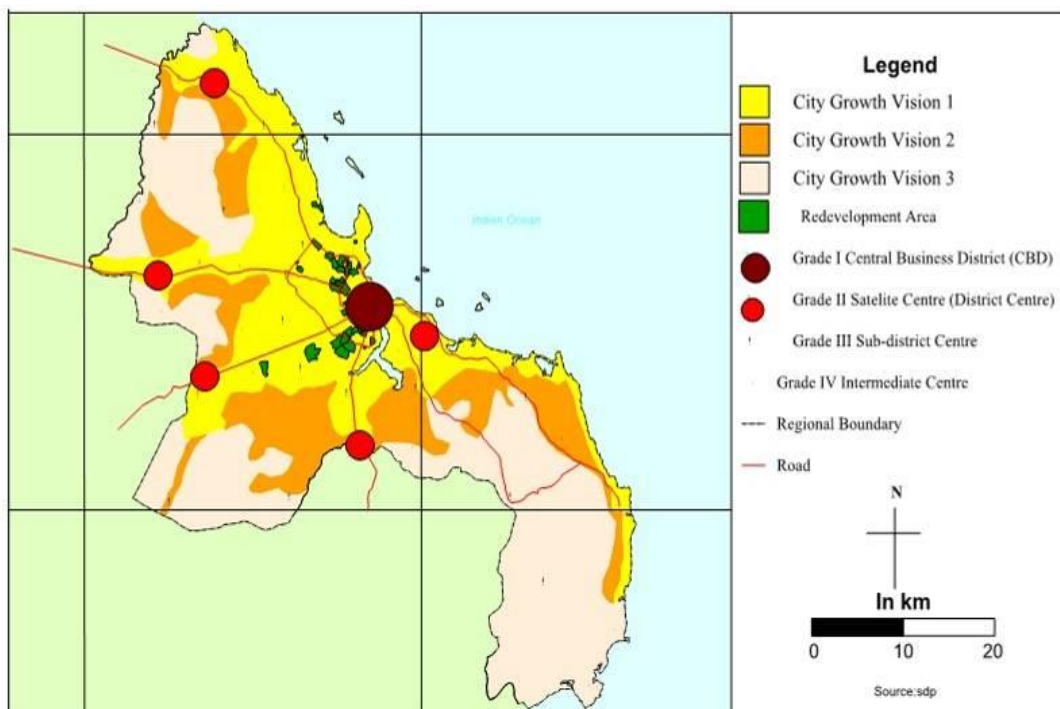


Figure 20: Proposed SUDP city growth and development Vision (source: DCC, 2008).

¹⁷ Interview response from Mrs. Mgomba, commissioner in charge of DCC in 2010.

In Figure 20, the redevelopment area that was the primary focus of the city was the inner city and a few surrounding areas. From the year 1992, vision one (yellow) was to be done in 0-5 years, vision two (brown) to be implemented in 5-10 years, and vision 3 (pink) in 10-20 years. The SUDP also proposed satellite cities on the outskirts. According to DCC (2008, p. 7), despite the SUDP involving a number of stakeholders, it failed to meet the needs of comprehensive urban development policies and guidelines for spatial growth, based on environmental analysis and a socioeconomic framework. The plan has not addressed effective control measures of land use and issues pertinent to urban redevelopment.

5.3 The Spatial Structure of Dar es Salaam

The unplanned sprawl of the city of Dar es Salaam has been primarily caused by informal urbanization, the force that shapes urban growth and subsequently defines the city's fabric (UN-HABITAT, 2010, p. 13-14). According to Lupala (2000), in 1891, the built-up area in Dar es Salaam was 122 ha and had more than tripled by 1945 (to 463 ha). Between 1945 and 1963, a rapid increase was observed, reaching 3,081 ha, and further expanded to 11,331 ha in response to a population increase between 1967 and 1978, from 272,515 to 843,090. In 1999, 61,260 ha was estimated to be the total built-up area of the city, of which 40,315 ha. (65.80 percent) consisted of informally built areas (Op. cit).

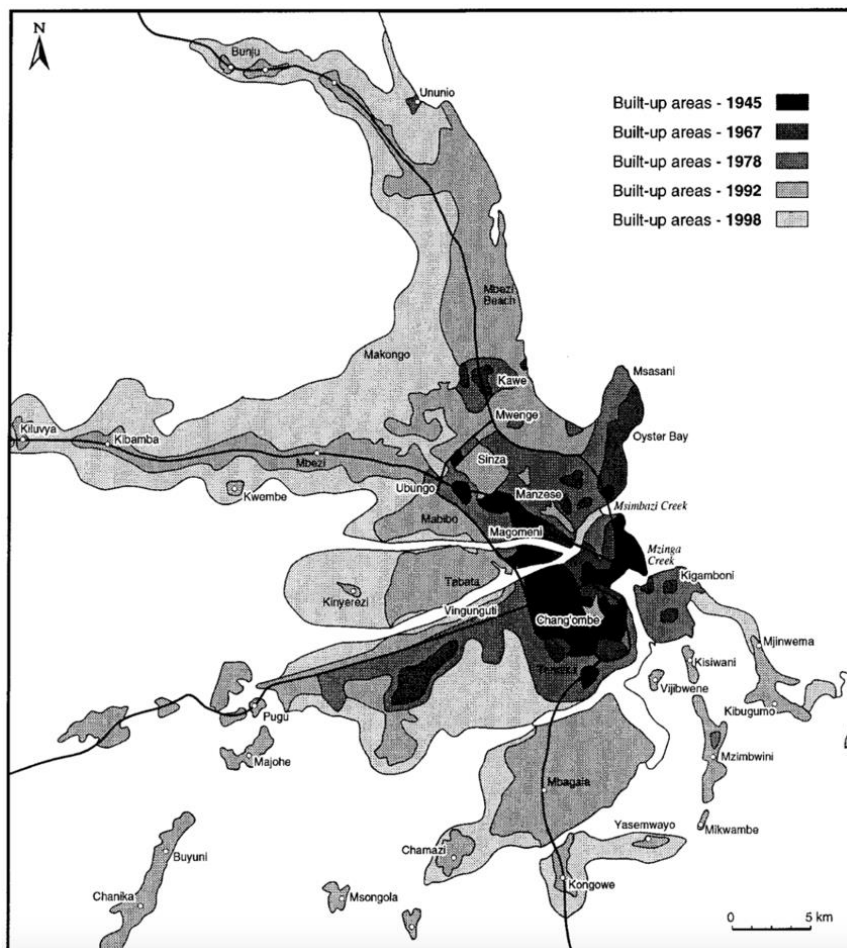


Figure 21: Spatial growth of Dar es Salaam from 1945 to 1998 (source: UN-Habitat, 2010).

The growth of Dar es Salaam has largely occurred spontaneously along the city's major infrastructure networks (Figure 21), primarily along trunk and arterial roads, water supply mains, and electricity supply networks. Growing radially from the inner city, which houses a busy harbor, the city expanded from a

radius of 2 to 6 kilometers between 1945 and 1963 (UN-Habitat, 2010). The growth nearly tripled to 14 kilometers in 1978, and by 1991, it had reached 18 kilometers. This growth was observed along all major arterial spines, namely Bagamoyo Road (32 kilometres), Morogoro Road (28 kilometres), Pugu Road (20 kilometres) and Kilwa Road (14 kilometers) (Ibid) as captured in Fig. 21. Arterial Roads, local and access roads in the city of Dar es Salaam experience the same development pressure in which the majority portray a proliferation of predominantly commercial activities such as retail and wholesale shops, restaurants, repair workshops, and street vending. This pattern underscores the importance of this study, as it highlights the significance of analyzing traffic spines, which have developed and continue to evolve using local knowledge that is largely unanalyzed and unacknowledged.

5.4 Historical Development of Settlements in Dar Es Salaam

Dar es Salaam's first building code, known to have shaped the city, was introduced in 1891 by the German colonial government (Brennan et al., 2007, p. 100). The code divided the town into racially based zones, in which construction standards differed. With the harbor paramount, the area in front of it and the eastern part were for European-type buildings. Next to this was the Asian zone, which was also to have solid construction. Each construction required a permit, and the area beyond the Asian part was left for any construction, including simple huts inhabited by the natives (Ibid).

The African part of the city (now Kariakoo) was later conceived as a grid-pattern plan with single-storey houses built using mud and thatch. In the three zones, the standards of buildings, infrastructure, and the living environment in general differed immensely, mainly because the European zone was developed by the government, leaving the Asian and African zones to develop on their own (Ibid). This suggests that natives were given the freedom by the authorities to develop their own spaces.

The coming of the British adopted the plan that the German administrators had put in place. Based on an earlier Township Ordinance passed in 1920 and the Township rules in 1924, the British adopted and enforced the regulation from the Germans by prescribing three zones: Zone I, in which only European residential buildings were to be constructed; Zone II was to house residential and trading buildings (Asian zone), and lastly Zone III was meant for native quarters only (Ibid, p.104). In that sense, commercial activities were to be accommodated only within the Asian area. This planning left the African and European zones as purely residential areas. Small-scale commercial household activities, such as trading goods, sewing, and laundry services, began to appear along the streets in the African zone, suggesting that the role of built environments for locals extends beyond living to cater to livelihood activities that were predominantly informal and gradually developed. The Mnazi Mmoja garden was designed as a buffer zone (corridor satire) separating the African quarters from the Asian and European zones. Initially occupied by the natives, a notice to evict them was given in 1927. They were given three years, after which they left to create the open space. The former German residential area was acquired by the British government through nationalization from a public auction during the sale of Enemy Property in 1922 (Brennan et al., 2007).

The inadequacy of European housing in the inner city made it necessary to extend the area northerly into the Oyster Bay area, which was subsequently developed as a European settlement. To facilitate connection, the Selander bridge was built in 1929, and in 1931, the Oyster Bay area was officially annexed to Dar es Salaam (Ibid).

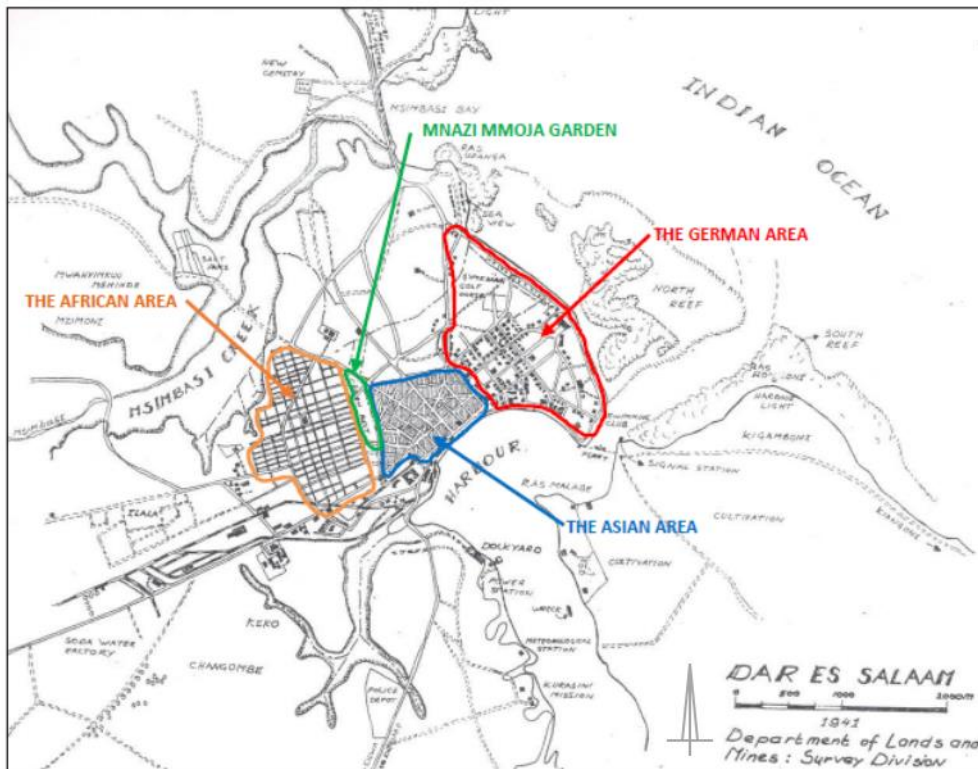


Figure 22: A map of Dar es Salaam, 1941 (source: UNHCX, modified by author).

Figure 22 shows the African area in the west, the Asian area in the middle, separated from the African area by the Mnazi Mmoja garden, and the European area in the East. In the Indian and African zones, construction continued haphazardly. The nature of occupying and developing land was referred to as "Kiwanja" tenure, "kiwanja" being Swahili for plot. It was such that tenants paid rent to the government, and tenure was terminable at six months' notice. To force natives out of the city and for Indians to improve the quality of their buildings, strict rules were exercised. These included requirements for the Right of Occupancy that had to be adhered to by a larger Asian community. Gradually, the rebuilding and regularization of the central area followed, but authorities also played a part in delegitimizing native residents.

With an increase in pressure for land in Zone III, 600 more plots were ready for issue by 1923. Due to its potential and, again, due to government-imposed rules, Asian communities occupied parts of Zone III for both commercial and residential purposes. This made the building code for zone III change to *"an area into which buildings of any type could be built, provided authority was obtained"* (Brennan et al., 2007). This suggests that informality, anonymity, and self-organization (implicit self-organization) are old phenomena dating back to at least a century ago in Dar es Salaam. These processes are thus an essential part of the city's evolution.

Before 1930, the government had to acquire a 500-acre property west of Kariakoo for approximately 4,000 pounds, following a large number of native applicants for building plots. The area (Ilala) was an extension of the natives' area. With thousands of Africans living in approximately 2,000 plots in these areas, no additional plots were allocated for the new Africans flocking into the flourishing city. The native had always been a subject of limited attention during the city's earlier development. Based on records from the Public Works Department, during the period 1933-1938, Europeans consumed 31-43 gallons, Indians 7.5-14.5 gallons, and Africans only 0.68-0.88 gallons of water per day. Although the wide gap

has been reduced, a generally similar trend can be observed regarding the nature of service provision today when comparing informal settlements to more affluent neighborhoods in Dar es Salaam (Ibid).

Funds were provided by the Colonial Development and Welfare Act of 1939 to improve the working and living conditions of Africans. Urban and social infrastructure projects, such as roads, housing, water, electricity, sewerage networks, schools, and health centers, were built. The funds financed major projects, such as the construction of trunk roads and the airport, which played a significant role in the city's growth. The housing provision was still along racial lines. With a skyrocketing demand for housing among all races by 1940, European staff housing was built in the Oyster Bay and Kurasini area, while that of the Asian counterparts was located in the Chang'ombe area. Experimental housing was constructed in Ilala, Temeke, and Magomeni to develop affordable economic houses. In Temeke, Magomeni, Kinondoni, and Kigamboni (across the harbor), plots were issued to Africans on short-term leases while encouraging them to build traditional or modern houses and become homeowners. With an emphasis on roads, water supply, markets, schools, and recreational grounds, 8,000 more plots were demarcated. Unfortunately, a large number of plots were not supplied with basic services (Brennan et al., 2007).

Upanga, being inhabited and owned by both Africans and Asians, had to be modernized to decongest the city parallel to the development of the Chang'ombe and Oyster Bay areas. Upanga, being originally unsurveyed and spatially irregular, had approximately 100 holdings; these were converted into over 1,000 plots and mainly sold to the Asian community (over 77.5%) for private housing. Chang'ombe, being a government land, was developed by the government for public housing. The development of Upanga was based on resolutions formed by the Upanga Planning and Development Committee under the Ordinance Cap 283 of 1949 (Ibid).

In 1951, a reaction to the allocation of land without services came from the Medical Officer of Health (Ibid, p.113). The reaction followed high-density land allocation that lacked building standards, roadside drainage, and refuse disposal. The then Chief Planning Officer, Mr. Sylvester White, responded by pinning the outcome on the Africans, who, according to him, could not afford to build anything substantial and were satisfied with the low standards of living. With a rapidly increasing population, coupled with a perception that land development was most important for Africans, developments in Kinondoni, Temeke, and Kigamboni continued without essential services (Ibid). The allocation of land in most schemes in Dar es Salaam is done without considering basic infrastructure services (Kyessi, 2002).

The racial segregation pattern never ceased. The expansion of Dar es Salaam continued at a high rate come independence (1961). New African residential areas were established in Ilala, Magomeni, Temeke, Kinondoni, and Kurasini, alongside the industrial areas along Pugu Road. Concurrently, several informal settlements emerged, including Keko, Chang'ombe, Kigogo, Msasani, and Buguruni (Ibid., p. 115). With an alarming rural-urban migration rate and having acquired a city status, a new form of urban development emerged. The racial segregation structure was modified in which the Tanzanian government officials occupied the European and Asian zones. Settlements emerged as low, medium, and high density (Ibid).

Priority was given to senior public officials, politicians, and wealthy residents, leaving the majority to pursue their dreams of owning land by occupying unplanned areas. The government's lack of political will and weak planning machinery hindered the handling of informal land development, yet it facilitated growth despite official planning schemes (UN-Habitat, 2010). As of 1979, 70% of Dar es Salaam's residents lived in informal areas; this proportion has persisted since then.

5.5 The African City in Brief

Urbanization is not a new phenomenon. For instance, in the developed world, it started more than 200 years ago. The Industrial Revolution of the 19th century was a key driver of migration from rural to urban areas. The challenges of urbanization at the time were tackled by reform movements led by relatively strong governments and later developed institutions that were able to meet the urban needs for adequate shelter (Sheuya et al., 2007). Therefore, strict controls were not exercised until the capacity improved. It was a collective effort led by multi-level actors that resulted in the production of functional and adequate shelters in urban areas. This is captured by Bourdieu (2005), cited in Sheuya et al. (2007, p.99):

"Many actors, such as social reformers, town planners, engineers, architects, builders, the construction industry, property developers, and mortgage institutions, helped ensure the standards of private dwellings, neighbourhoods and municipalities."

According to Edjabe et al. (2011, p. 70), based on various studies conducted in urban Africa, one step towards resolving urban crises is to acknowledge the multiple actors and their roles in urban development. Additionally, this step is not managerial or technical but rather relational; the relationship is based on democratic, accountable, and reciprocal norms and values among key actors (Ibid).

The top-down approach in both the planning and design of cities in Africa has been seen as limiting in terms of accommodating the needs of the intended users, including low-income earners. This is captured by Avogo et al. (2017, p. 1), who describe government-built housing in Ghana as a type of housing conceived as a finished product that tolerates no alteration by users, as they are not involved in the design process. This severely restricts their means to negotiate for changes that may respond to urban realities. Imposed rules and regulations typically do not support self-initiated efforts by users in responding to constantly changing needs Avogo et al., 2017).

The phenomenon of legality/illegality and formal/informal processes in managing urban spaces, i.e. trading and commercial spaces and practices, has strongly suggested that African cities have what can be termed 'complex urban relationships' as well as complex structures and forms. This becomes apparent when looking into the governance of informal trading activities in Johannesburg. Illegal systems that favor informal or illegal street traders are recognized by law enforcement bodies, who the traders pay through a spokesperson (Ibid). Issues related to how planning should address social issues, the multiplicity of functions of streets, concentrated land use, and the globally increasing bottom-top initiatives still pose a challenge for planners (Gehl, 2010). This is one of the gaps that this research intends to fill.

In the rapidly urbanizing developing world, governments face two major tasks: improving the living conditions of residents and providing both land and housing. Due to failure to cope with the urbanization process, bureaucracy, prohibitive costs, and other factors, many residents are left without land and homes. Those who are left out rely on their ingenuity, skills, energy and resources to meet their shelter needs. These groups are compelled to resort to unconventional and informal means of housing provision due to the lack of (*affordable*) conventional or formal housing solutions (Keivani et al., 2001, cited in Bredenoord et al., 2017, p.279).

Currently, most urban interventions in terms of infrastructure and real estate development seem to address the elites rather than balancing societal needs, thereby reflecting a top-down approach. With a modern agenda, they are Eurocentric and unquestioningly adopt Euro-American metropolis concepts and characters, which are often seen as models and benchmarks.¹⁸ According to Edjabe et al. (2011), such trends can be observed in cities such as Johannesburg, Lagos, and Kinshasa. In Kinshasa, shaded two-lane roads were transformed into treeless, formal, regulated, and state-owned business hubs. This was an international initiative, as it involved private consortia that linked the Congolese and Chinese governments in the Gombe and Lingwala areas, which were formerly colonial centers (Ibid, pp. 7-9). In a project in Lagos, designed by the renowned architect Rem Koolhaas, a bridge meant to ease traffic and brand the city appeared to have an intention of easing the movement of the elite rather than the majority on the mainland. In addition, the design was intended to feature a PRADA store on its lower deck, adjacent to roadside food vendors' stalls. A design outcome that would eventually result in the displacement of informal vendors (Ibid).

The hosting of the World Cup in Africa in 2010 also did not leave South Africa's commercial hub, Johannesburg, out of the discussion. The design resulted in the widening of social divides instead of unifying users by balancing their needs. The overinvestment in infrastructure, stadiums, and hotels, which are all restricted, does not only generate income as envisioned but also leaves out the majority who are have-nots (Ibid). One of the key questions to ask ourselves is *'How do the haves (developers, professionals, and the state) and have-nots (citizens, dwellers, and other low-key actors) come together to inspire and positively influence one another in urban interventions and spatial development projects?'*

Even though attempts have been made to ensure that everyone has a place in modern Africa, the majority, who are the have-nots, are continually left out. In theory, projects such as large-scale CBD projects, satellite cities, and new towns often overlook local realities and lead to modular urbanism. This modular approach involves replicating designs without regard for local land use, leading to developments that are typically contemporary, expensive, and opportunistic (Owens, 2014, pp. 18-19).

According to Kavishe et al. (2010), as the main custodian of housing, the National Housing Corporation (NHC) in Tanzania has executed a number of projects through joint ventures with private investors in mainland Tanzania. The projects have faced challenges, including the dominance of the NHC in making key decisions and the failure to complete them on time (Ibid). This inequity led to the collapse of a 16-storey building, which was constructed without a permit that only allowed for a 10-storey building (Ibid). Such catastrophes demonstrate the power of private investors driven by market forces in Africa. They also indicate that it may be catastrophic to leave urban development in the wrong hands, which can lead

¹⁸ Edjabe et al. (2011) describe Eurocentric and American metropolis as places that develop based on European or American standards. Such standards include wide roads, boulevards and other movement spines.

to ruination instead of improvement (Tsing, 2017).

5.6 Urbanization and Transformation of Dar Es Salaam

The urbanization process in Dar es Salaam can be traced back to the late 1930s and early 1940s. Between 1938 and 1944, the African community in Dar es Salaam increased by a figure exceeding 50%, from 26,000 to 40,000. An acceleration of urban growth at the time triggered and fostered the urbanization process. Despite rapid urbanization, urban living conditions were worsening (Brennan et al., 2007, p. 38). The urbanization process was also coupled with severe unemployment in 1939 and low wages among the employed, making the supposed glamour of life in the commercially active capital seem challenging. Nonetheless, opportunities for both formal and informal sector work influenced an upsurge in rural-urban migration.

Tipple (1991) captures the technical meaning of transformation by regarding it as a widely spread phenomenon, irrespective of regulations and standards, especially in developing countries. He defines the concept as *"Alterations or extensions involving construction activity and using materials and technology in use in the locality."* (Tipple, 1991, cited in Avogo et al., 2017).

According to Nguluma (2003), as main actors, users informally initiate the transformation process and engage other actors to realize their aspirations. Often, the government does not intervene or obstruct unless it is for the larger interest of the state. At the request and payment by property owners or tenants, it supplies services such as power and potable water. Urban residents prefer living in and relocating to settlements where there are extensive social services, the freedom to make alterations to their homes, and the opportunity to engage in informal economic activities. This is regardless of the state-imposed rules and regulations (Limbumba, 2010; Anyamba, 2006). This suggests that urban residents take advantage of the informal opportunities in the environments they occupy, allowing them to be creative in meeting their livelihood needs.

According to Limbumba (2010), main roads in the city offer opportunities for trading by lining up small tables or stalls on which they sell fried fish, cashew nuts, and household items. The same spaces serve as last-minute shoppers' return home when it gets darker, with the use of small paraffin lamps. Nowadays, increasingly small-charged solar devices are used. In some settlements, petty trading within and outside the settlement, as well as farming nearby, are the main income-generating activities (Limbumba, 2010, p. 145). This suggests that streets not only provide livelihood opportunities but also contribute to the way of life of many Africans in urban areas, who shop while walking along the streets. The environmental policy of Tanzania supports the need for the environment to be responsive to users' immediate and long-term needs in order for urban settlements to be sustainable. This is captured by URT (1997, P.28) in the following quote:

"It shall be a mandatory requirement to ensure that environmental concerns receive due and balanced consideration in reconciling urgent development needs and long-term sustainability, before a final decision is made. In this way environmental considerations will not become an afterthought in planning and decision making, but rather, part of our consciousness and awareness of our development realities."

The foregoing supports the idea that the complexities of urban environments need to be studied, understood, and integrated into spatial development plans by the state. The *Machinga Complex*¹⁹ (Fig. 23) illustrates how government interventions may fall short when they do not respond to urban realities, particularly the low-income users of space. To tackle the persisting street vendor activities in Dar es Salaam, DCC, with financial support (via loans) from NSSF (National Social Security Fund) built a 5-storey business centre (Machinga Complex) across a major highway. The complex was designed to accommodate hawkers, thereby preventing them from conducting trading activities in restricted areas, including road and street reserves. The complex has raised many contentious questions for the general public. It serves as a lesson to city planners regarding how top-down approaches may not always be practical, even when supported by the best of intentions. Having been completed in 2010, the complex had 4,500 trading spaces, comprising 4,206 stalls, eight storage rooms, 33 food vending spaces, and 68 kiosks.



Figure 23: The Machinga complex built across Kawawa Road. ²⁰

The two buildings were designed to provide formal and informal spaces for petty trading and hawking, thereby preventing them from conducting their activities along the roads. Similar structures and facilities were to be built in other major cities in the country. This is the only one of its kind that has been built. The building has been considered a white elephant, as it had remained unoccupied for five consecutive years. To date, hawkers and street vendors line up outside the building, along roads, walkways, and paths, to reach out to passersby and commuters who shop while strolling along movement spines.

Based on an initial survey by the College of Business Education (CBE) in collaboration with the Organization of Merchants from Across Finland (FBMA), it was established that Dar es Salaam had more than 700,000 hawkers who operated outside of the formal government. The low occupancy rate of the Machinga complex compelled the owners to have the building used by both hawkers and big traders with formal businesses (Ibid). According to Kweka et al. (2011, p. 31), the building has been unable to meet

¹⁹ Machinga is a Swahili acronym that means hawkers or street mobile vendors. Machinga in English - Swahili-English Dictionary | Glosbe. Accessed 29/07/2024. 11.09.

²⁰ Source: <http://www.azaniapost.com/economy/tanzania-dar-mayor-terminates-machinga-complex-contract-h6175.html> (updated 25/8/2017, accessed 24/9/15:12).

the needs of both vendors and shoppers.

5.7 Management and Development of Roads in Tanzania

Tanzania National Roads Agency (TANROADS) was established in 2000. This agency is under the Ministry of Works, which is responsible for formulating policies and development programs pertinent to roads. TANROADS manages 35,000 Km of roads, of which 12,786 Km are trunk roads, and the rest (22,214 Km) are regional roads²¹. According to the Roads Act of 2007, TANROADS divides the roads into two major categories: regional roads and district roads.²² The main functions of TANROADS are to maintain and develop the roads within cities (Ibid). TANROADS has been a key player in the development of roads in mainland Tanzania. Notable examples include DART (Dar es Salaam Rapid Transit System), which is similar to the system championed in Brazil, Colombia, and Chile (Ibid).

Another notable large-scale project is the Dar es Salaam-Chalinze expansion. Chalinze is a small town that connects Dar es Salaam to other regions and countries. As the custodian of roads in mainland Tanzania, TANROADS is a key player in decision-making regarding land use along commercial streets. The construction of the six-lane highway to Kiluvya along Morogoro Road has involved the demolition of thousands of houses, leaving many homeless and without workplaces that once flourished along the road. The demolition displaced filling stations, religious buildings, health centers, and hundreds of business premises. These structures were built within 120 meters of the road.²³ Victims of the demolition exercise have expressed their anger towards the government, claiming that in the 1970s, they were directed to move closer to centers due to the unavailability of better social services in faraway settlements that were to be either transformed into socialist villages but were later eliminated during the Ujamaa village program.²⁴

As far as urban development is concerned, such interventions not only leave people homeless, but also disrupt the relationships that traders and micro-entrepreneurs have established with their customers over time. The interventions also reduced the accumulation of fixed-asset value and discouraged investment. Loss of physical capital, relocation to new, far-away, and less favorable areas, a sense of loss of self-worth, and vulnerability are a few consequences of such interventions (Lyons et al., 2009, p. 12). The authors suggest that demolitions or evictions have adverse effects on the livelihoods of urban dwellers, as they disrupt economic activities that were previously accommodated in commercial streets. This necessitates an examination of the role of road agencies in protecting the interests of users who reside along the movement spines they manage. While TANROADS is responsible for maintaining trunk and regional roads, TARURA (Tanzania Rural and Urban Roads Agency) is responsible for maintaining rural and urban Roads²⁵. The case study for this dissertation (Shekilango road) falls under TARURA; as it is an urban road.

²¹ <https://www.tanroads.go.tz>. Accessed 29/07/2024, 11:35.

²² <https://www.lexology.com/library/detail.aspx?g=ba8c3064-6a64-4759-befc-2fecc5834b31>. Accessed 27/9/2018, 14:38.

²³ <http://www.thecitizen.co.tz/News/WB-clarifies-on-demolitions-claims/1840340-4303932-13wg3hsz/index.html>. Accessed 27/9/2018, 15:01.

²⁴ Ujamaa - a rural development approach meant to transform rural communities into socialist communities where political, economic particularly production activities are collectively organized (1968-73) beyond which compulsory resettlement of rural inhabitants occurred. Boesen et al. (1977:11)

²⁵ www.roadfund.go.tz/en/faqs.

5.8 The Regulatory Framework and Land Management

Urban land management is a system comprising various actors whose primary intention is to ensure orderly growth, efficient functioning of cities, proper urban land allocation, and provision of housing, services, and facilities (Mwiga, 2011, p. 7). Urban land management is structured around regulatory frameworks that enable the development of formal land and urban areas. Regulatory frameworks pertinent to building standards and regulations comprise formal procedures necessary for would-be developers. In this respect, regulatory frameworks encompass various laws, including local government laws and bylaws, acts of parliament, standards, rules, and regulations. According to Kironde (2006), the regulatory framework can be categorized into three components:

Administrative Procedures Encompass the Institutional Setup that Enables the Legal Acquisition and Development of land. It entails all the institutions one has to go through to achieve the same.

Planning Standards include standards for the plot in terms of minimum plot sizes, minimum frontages, coverages, road widths, and provision for other uses, such as economic, social, and public.

Planning Regulations are rules that stipulate how the actual plot or area can be developed in terms of activities that are allowed or disallowed. Regulations included land use and zoning control, plot use restrictions, building setbacks, coverage, and plot ratio. (Majale 2002; Fekade 2000; Lall 2001; Kironde 2006 in Mwiga 2011, p.1-2).

According to Majale (2002), as strict and straightforward as land management should be, it needs to consider its context. In rapidly urbanizing areas characterized by rapid population growth, there needs to be a political will to regulate land development. This will ensure the successful planning and management of space, services, and amenities to achieve a livable and healthy environment (Ibid).

In Sub-Saharan Africa and other developing countries, regulatory frameworks are often either inherited or adopted from colonial powers. Often, these do not reflect the realities of poor communities, hence becoming a hindrance in achieving sustainable livelihoods in terms of planning, design, and provision of land, services, and amenities (Ibid). This is mainly because institutional, economic, social, and climatic conditions in the North differ significantly from those in the South.

The regulatory frameworks imposed or imported from the North are thus inappropriate as they are elitist and unrelated to the social and economic realities. In addition, the adopted land use control measures have been described as controlling, outdated, inflexible, rigid, and reactive (Mwiga, 2011). The overbearing role of governments as the regulator and primary user of land is increasingly being challenged by groups, including land rights communities, civil society organizations, public sector groups, and others (African Union et al., 2010).

5.9 Residential Development Approaches – The 20,000 Plots Project

To curb the proliferation of informal settlements, the government embarked on delivering plots in various areas of the city of Dar es Salaam during the 2002/2003 financial year. The project, referred to as the 20,000 plots, was initiated by MLHSD in collaboration with the Temeke, Ilala, and Kinondoni municipal authorities, the three municipalities that then comprised the city. The project also consisted of steering,

technical, and task force committees, which were responsible for monitoring, policy formulation, budgeting, and identifying suitable areas (Mwiga, 2011, pp. 31-32). Actors in the project included MLHSD, local authorities, physical planners, land surveyors, valuers, land officers, road engineers and contractors, and the agency for water provision (Ibid).

The project build-up involved several activities, including project area identification, compensation, and design of plot layout options (Ibid, p. 33-34). Community participation took place through sensitization processes, in which landowners were informed about the government's decision to acquire land for public use. This was reported in several meetings and at various times, and announced in different media. Another approach involved political and government leaders, as well as municipal urban planning committee councilors, and was intended to inform dwellers of the importance of planned land development (Ibid).

5.9.1 Space Standards and Services Used in the 20,000 Plots Project

The standards adopted in the scheme did not differ from those in the old planning schemes, which were intended to separate classes of people. This approach suggests that, although planning standards consider the differences in plot sizes based on users' requirements, key factors, including socio-economic undertakings of urban dwellers such as livelihoods and social activities that may contribute to planning standards responsive to urban realities, are given little or no regard. The standards, however, minimized space usage by slightly reducing the standards in the 1997 regulations. Tables 13 and 14 show the standards:

Table 13: Space Standards for Residential Plots in the 1997 Regulations

S/N	PLOT TYPE	PLOT SIZE (SQM)	REMARKS
1.	High density (HD)	400-800	The high-density plots are intended for low income home builders in urban areas. For commercial activities and future transformations, comparing this size to the most common and smaller plots in informal settlements that are often less than 200m ² , (Kombe, 2017), the size is inadequate.
2.	Medium density (MD)	801-1,600	
3.	Low density (LD)	1,601-4,000	

(Source: URT, 1997).

Table 14: Space Standards for Residential Plots Under the 20,000 Plots Projects

S/N	PLOT TYPE	PLOT SIZE (SQM)	REMARKS
1.	High density (HD)	400-600	Further reducing the size of plots limits users to carry out socio-economic activities or allowing for future change of use to accommodate necessary public services (Kironde, 2015).
2.	Medium density (MD)	601-1,200	
3.	Low density (LD)	1,201-1500	

(Source: Mwiga, 2011).

Rudimentary roads were provided to ensure accessibility to every plot. The roads in the project were gravel and earth roads due to financial constraints. As of 2010, the water and electricity agencies DAWASA (Dar es Salaam Water Supply and Sanitation) and TANESCO (Tanzania Electric Supply Company Ltd.) had not supplied services to the project areas. Only a few developers had the services, mainly along the roads. The plots were later advertised on public notice boards, and plot purchase forms were available in land offices. There were no restrictions on the number of plots per owner, and payments allowed for instalments (Ibid, p. 38). The freedom to acquire an unlimited number of plots, often

facilitated by loopholes that favor officials, politicians, and powerful citizens, may have contributed to the inability of residents who wish to purchase and own land to do so legally.

5.10 The Land Development Process and the Inevitability of Informal Practices

Like any other planned area, legislation requires that any building development be done after processing a building permit from a local authority (Land Act, 1999, p.36-37). The procedure involves preparing and submitting certified drawings to the relevant local authority. At the municipal level, the drawings are checked by an architect, engineer, town planner, land officer, sanitation and fire expert. Once these professionals endorse the drawings, they are sent to the Urban Planning Committee (UPC) for approval and issuance of the permit (Mwiga, 2011, p. 39).

To ensure that the building projects are in line with planning and building regulations and are built with permits, municipal and local government authorities under the Township Rules (Land Act, 199, p.36-37) are empowered to carry out inspections upon commencement and completion (Ibid). Building lines, setbacks, and plot ratios are standards designed to provide space for various uses, such as the installation of septic tanks, soakaway pits, and connections for water and electricity. The minimum plot ratio, setbacks, and other relevant details (Table 14) are per the Town Planning Space Standards Regulations (URT, 1997).

Table 14: Minimum Plot Ratios, Setbacks, and Building Lines for Residential Buildings

S/N	PLOT RATIO	SETBACKS (METERS)		
		FRONT	SIDE	REAR
1.	High density (HD)	3	1.5	2
2.	Medium density (MD)	3	3	5
3.	Low density (LD)	5	4	10

(Source: Tanzania, 1997).

Some developers tend to carry out building activities illegally due to unnecessary delays in issuing building permits, (NHSDP, 2000). The nonconformity is also caused by the rigidity of land use control, which may not address the immediate needs of urban dwellers (Kironde, 2015, p. 362). The dominance of MLHSD in formulating and enacting spatial development policies left LGAs marginalized, resulting in numerous unaddressed complaints from local communities. The socio-economic and cultural settings of the would-be homebuilders were never established since there was no socio-economic assessment. In terms of access to land, the assessment would have been necessary to develop the pattern of land ownership and socio-economic activities of the residents (Ibid). It would have informed future planning for those displaced, allowing for sustainable land development. It would have also helped land use development in land use control, where several formal and informal economic activities, such as farming, commercial spaces, and animal keeping, would have been integrated into the planning process.

According to the URT (2008, pp. 7-8), the World Bank's Doing Business Survey also established that obtaining business licenses and permits has not been an easy and straightforward procedure. In addition, registering land and obtaining titles, which are meant to reduce poverty, have also been costly and time-consuming. Consequentially, only a few farmers and SMEs registered their businesses and obtained titles. According to the World Bank's study on the business environment in Tanzania (2008-2018), several improvements have been observed. However, hindrances persist. The study focused on several activities, including registering property, obtaining electricity, and dealing with construction permits. In 2018, registering properties was still a challenge for many, as land and property registration fees had

increased. On the other hand, dealing with construction permits was expected to be easier due to the implementation of a one-stop shop and streamlining the building permit process; however, dealing with and obtaining building permits is still costly and cumbersome (World Bank Group, 2018, p. 58).

Due to failed plans by the government (Nnkya, 2008; Majale, 2002), some ambitious assumptions were made to support the master plan, including a road and railway crossing to Kigamboni (an area close to the inner city) by 1989 (DCC, 2008). The construction of a bridge and a new ring road from Ubungo to Kigamboni via Tabata and Mbagala was also envisaged (Ibid). Additional arterial roads, an agricultural area beyond Ubungo (a major node connecting Morogoro and Mandela roads), and an industrial area in Bagamoyo were other ambitions (Ibid).

Most of these plans were never realized, and others took a very long time to be implemented. For instance, construction of the Kigamboni Bridge began in 2012 but was completed in 2016. The Ubungo agricultural area was left to develop spontaneously as an informal settlement, and the "self-contained districts," which were neither planned nor serviced, spontaneously offered informal employment opportunities. This suggests that when governments continually fail to implement their plans, residents intuitively and creatively improvise or transform urban spaces using tacit knowledge. As a result, informality becomes the norm in rapidly urbanizing cities. Such processes should be acknowledged as an essential part of spatial development in Africa:

"The existing squatter areas will not be cleared, but will be upgraded and provided with facilities for adequate sanitation and other basic services except for unplanned housing in hazardous areas."

Informal settlements may thus benefit from a soft upgrading approach (as captured by DCC (2008, P.7) above) in which the main part remains unaltered, therefore supporting residents' socio-economic activities. This same approach can yield better results when upgrading formally planned settlements that evolve using similar informal and self-organized spatial development processes.

Global agendas, such as mobility, may capitalize on a soft development approach that is sensitive to local initiatives rather than the interests of international agendas. As noted by Krugman (1996), self-organized, informal economies resulting from local initiatives play a crucial role in urban livelihoods. In this regard, governments, donors, authorities, and professionals need to consciously acknowledge the spaces for their socio-economic contributions and integrate them into development plans, as they comprise a major part of urban spaces, as well as informal economic activities along movement spines. In a study conducted in Dar es Salaam CBD and Sinza in 2017 (Figure 24), 90% of respondents (petty traders) reported that there were opportunities for people with low incomes along Shekilango road (Bahendwa, 2017). This suggests that urban settlements play a major role in sustaining the livelihoods of low-income earners.

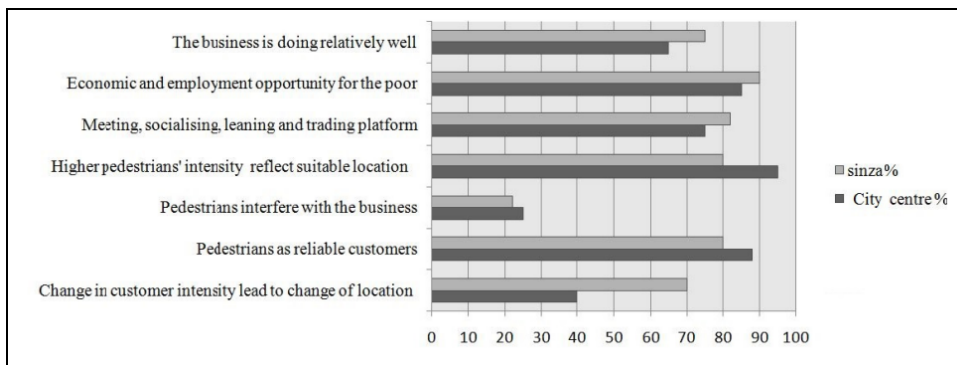


Figure 24: Important parameters for vending and commercial activities (source: Bahendwa, 2017).

Lack of formal employment opportunities necessitates informal economic activities. As studies have shown that formal and informal economies depend on one another (Krugman, 1996; Kweka et al., 2011), it is vital that urban development plans reflect the reality that the two must coexist. The strategies developed to address key urban issues remain impractical, as their implementation does not reflect such realities (Kasala, 2013) and have yet to have a far-reaching impact. Although informal economies and informal employment have been widely studied and recognized, their nature, geographical location within urban areas or movement spines, and their sustainable existence remain inadequately analyzed.

5.11 Land Use Governance and Legislation

Due to the poor land management system, including registration, titles, land transfer, and regulating the use of urban land, the importance of an informal subsystem in housing land development has increased remarkably (Kombe, 2001). This argument complements the idea of a land use approach that incorporates informal design processes and context-sensitive participatory models, which can be a significant addition to the existing land use. According to Carlotta von Schönfeld (2017), it is crucial that governance includes the insights of different actors and is relatively flexible. The mode of planning ought to be inclusive and responsive to the context in question.

A study conducted in 2019 estimated that the informal sector economic activities contribute 6.2 trillion, equivalent to 22.5 percent of Dar es Salaam's GDP (URT, 2020). According to the same study, 1,267,082 out of the total employed (2,091,521) in Dar es Salaam are involved in informal economies. They make up more than 60% of the population of the active workforce (Ibid). This group forms a vital entity and also exists on commercial streets. It is a vulnerable group since it coexists with and is dependent on formal businesses. It may be as marginalized as the permanent commercial spaces, since top-down spatial development approaches equally downplay the roles of both formal and informal businesses in spatial development plans.

Sundaresan (2017) argues that, based on urban and development studies, scholars in the field of planning have, over the past six decades, inclined towards examining planning violations from the perspectives of informality, implementation failure, and corruption. These inclinations, according to Sundaresan, might have gaps. According to him, a relationship exists between planning and the state in practice. A state with multiple institutions that may not necessarily operate coherently can have degrees of coherence that vary according to the history and politics in respective contexts.

As such, Dean (2009), cited in Sundaresan (2017), reflects on India for lessons on planning and identifies a planning practice that responds to everyday practices and the ways of living. This practice, according is termed 'Vernacular Governance' (Sundaresan, 2017). This type of planning mechanism is based on public interest networks, involving multiple political, legal, and administrative interventions to address violations that are considered commonplace. Each of these has hindered the development of formal and ideal planning systems for establishing a master plan (Ibid). This ideology followed after a seven-storey building collapsed in Bangalore, causing deaths and casualties; the building did not have the required certification (commencement, completion, and occupancy certificates). After immediate orders to comply with regulations for all buildings above four floors, subsequent evacuation for defaulters, and intentions to prosecute them, no significant compliances were observed a year later (Ibid). This example suggests that a context-sensitive approach to planning and spatial development is crucial. This can enable the development of tools that help developers and prospective owners address critical issues, such as safety and other relevant building standards.

According to Kombe (2000, p. 232), the formal system, having failed in numerous ways, can be partially overcome by integrating the actors, institutions, and procedures that are operational in informal or socially regulated local decision-making. This integration will be a crucial step towards eliminating rigid, formal land management procedures that fail to meet the needs and desires of users in urban settlements.

The Urban Planning Act 2007 recognizes city authorities, municipal authorities, and district and Township authorities as planning authorities for their respective jurisdictions. Owing to this, even though informal settlements have been misconceived as illegal, legislation recognizes their existence. The dwellers (users or property owners) in both formal and informal settlements are eligible for compensation in the event of displacement for the interests of the government. This compensation is explained in the following quote by URT (1999, p.37):

"Pay full, fair and prompt compensation to any person whose right of occupancy or recognized long-standing occupation or customary use of land is revoked or otherwise interfered with to their detriment by the State under this Act or the Land Acquisition Act."

As far as planning is concerned, the Central Government issues guidelines for declaring a Planning Area and preparing Planning Schemes. The role of planning authorities is to prepare General and Detailed Planning Schemes that, in principle should accommodate the needs of all vulnerable groups. According to Lyons et al. (2009, p.11), the primary functions of planning authorities are:

- i) To control physical development and regulate the height, design, and appearance of buildings.
- ii) Granting planning consent and the preparation of self-sustainable neighborhoods. General Planning, and
- iii) To promote sustainable development and to secure provision for transport, public purposes, services, and the residential, commercial, industrial, and recreational use of land.

The Act allows for the provision of zones and sites for both formal and informal housing, as well as informal sector development and commercial land uses. Residents largely influence land use changes, as they gradually and, at times, informally modify land uses. Through the Ministry of Lands (MLHSD), the

government may adopt the changes and officially designate new land uses, as it is the main custodian and regulator of land.

Theoretically, the Land Use Planning Act 2007 appears to be an interesting blend of traditional land management systems and newer sustainable development and participatory agendas, as it deals with the management of land and its conversion for development outside urban areas. Planning authorities are designated as Village Councils, District Councils, and the National Land Use Commission. However, such a fully formalized system seems unworkable considering the realities on the ground. The problem-oriented planning approach in the Sustainable Cities Programme, which was effective, has been largely ignored in the new land and town-planning legislation and has instead been applied selectively and punitively (Lyons et al., 2009). This approach has left street traders and other microenterprises vulnerable, as they are less tolerated by municipal authorities (Ibid).

5.12 Observations of Self-Organized and Informal Street Design in the Pilot Study Settlements

A large percentage of the city has undergone and continues to undergo rapid transformation along its streets and roads. The formal and informal residential settlements studied exhibited the same patterns as those on Shekilango Road, with only slight differences in the nature, scale, and spatial qualities of the spaces produced during the transformation.

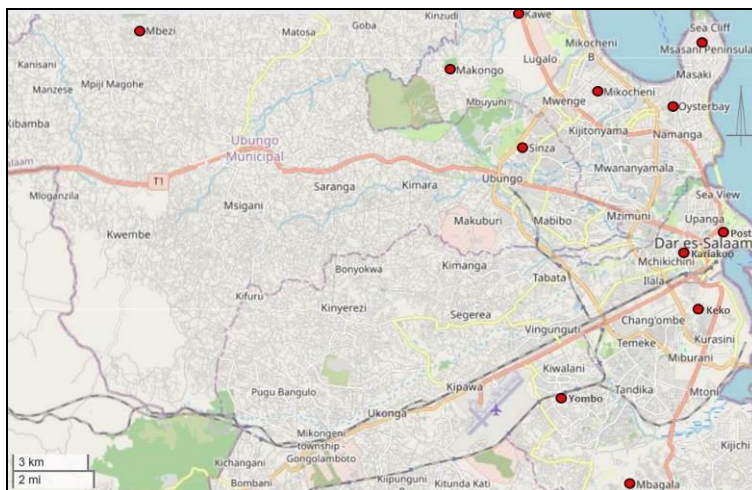


Figure 25: A map showing 13 pilot study settlements during the reconnaissance period ²⁶.



26 (a)

26 (b)

²⁶ Source: <https://www.openstreetmap.org/>, modified by author, accessed 22/08/2024.



26 (c)



26 (d)

Figure 26: (a) and (b) A typical street character in Kawe, Dar es Salaam; (c) A street in Keko, Dar es Salaam with furniture outlets and (d) An arterial road in Yombo, Dar es Salaam with informal and formal businesses (Source: author, fieldwork 2018).

Many informal businesses (Figure 26) operating alongside formal businesses along the roads and streets of the pilot study settlements (Figure 25) were observed. Informal businesses are not limited to car washing, courier services, motorcycle operators, food vendors, and informal employees in both formal and informal settings. These businesses included leisure spaces (bars, restaurants, betting booths, etc.), butcheries, pharmacies, stationers, salons, hardware stores, massage parlors, and boutiques on both major and minor roads. Large mixed-use apartment complexes, malls, hotels, factories, schools, health facilities, and fewer smaller or retail commercial spaces were observed along major highways.



Figure 27: Informal businesses along Kilwa Road in Mbagala settlement (source: author, fieldwork 2018).

Kilwa Road (Figure 27) is characterized by formal businesses, including retail, recreational, filling stations, and banks, to mention a few. The road accommodates informal economic activities, including temporary stalls, umbrella sheds, and bodaboda (motorbike) stations. Informal economic activities are often found on the road frontage, while permanent formal businesses (such as block-and-mortar structures) are typically located behind. The median (with a stack of bags) and wooden tables characterize hundreds of informal businesses in the evening and at night. Informal businesses operate in front of formal permanent businesses by encroaching on a service road. Commercial streets typically consist of spaces for retail shops on the front of the plots and residential houses behind; this is a typical residential-commercial character in most of the pilot study streets.



Figure 28: A residential street in Zakiem, Mbagala, Dar es Salaam (source: author; fieldwork 2018).

The street in Zakiem (Figure 28) depicts a typical self-organized commercial street with commercial spaces on both sides. Both sides feature covered verandas and shaded public spaces that provide opportunities for socializing. Both sides show people sitting, talking, and resting. Not only does the street accommodate both motorized and non-motorized users, but it also provides for motorized users to park, shop, and go. Additionally, its width allows pedestrians to move freely while commercial activities are taking place.



Figure 29: Commercial spaces in the Mbezi Beach area Old Bagamoyo trunk road (source: author, fieldwork 2018).

The size and types of developments along Bagamoyo Road (Figure 29) are similar to the ones along Morogoro Road. Plots are larger and are accessed via service roads. They also offer adequate parking spaces and can be conveniently accessed. These roads attract large investments; on the left is a mixed-use building, in the center is a factory, and on the right is an office building. Both formal and informal commercial activities also characterize Bagamoyo road.



Figure 30: Commercial activities along Sam Nujoma Road (source: author, fieldwork 2017).

Some roads have special characters. The Sam Nujoma Road (Figure 30) links two major trunk roads in the city: the previously mentioned Bagamoyo Road and Morogoro Road. Sam Nujoma Road has both formal and informal commercial establishments. The former comprises large-scale and high-rise commercial establishments, including mixed-use high-rise buildings, food outlets, timber hardware (pictured above), bakeries, hardware stores, malls, filling stations, and a large and old center with art and currier shops. Although there are service roads, heavy traffic makes accessing some of the plots along this road difficult. The traffic also makes it challenging to accommodate parking spaces.

Nyarung'ombe Street (Figure 31(c)) is both a motorized and non-motorized commercial street, consisting of temporary informal commercial activities in the front and permanent formal activities in the back; a typical scene along Kariakoo streets.



31 (a)



31 (b)



31 (c)

Figure 31 (a) and (b): Examples of makeshift commercial spaces in Kawe, and (c) Nyarung'ombe Street in Kariakoo, Dar es Salaam depicting survivalist strategies (source: author, fieldwork 2018).

Fruits, fried cassava, sweet potatoes, peanuts, and other foodstuffs are sold in mainly small portions to passersby or nearby households. Such spaces, observed in Kawe (Fig 31a and b), are referred to as survivalist livelihoods for poor households (Anyamba, 2006). Figure 32(a) and (b) are examples of informally organized commercial spaces (with umbrella sheds) that co-exist with formal businesses (in the background).



32 (a)



32 (b)

Figure 32: (a) and (b): A local road in Manzese and a part of a local road in Mbagala (source: author, fieldwork 2018).

Movement spines typically consist of informal commercial activities on both sides. Motorized and non-motorized users share the space. Figure 32(b) shows a sign for toilet services, suggesting that at times, informal transformations of spaces also cater to basic public needs.



Figure 33: Commercial establishments along the Old Bagamoyo Road in Mikocheni, Dar es Salaam (source: author; fieldwork 2018).

Mikocheni is a planned residential neighborhood primarily inhabited by high-income earners. The location, neighborhood income status, the nature of construction, and the type of businesses (Figure 33) suggest that business owners transform streets to accommodate livelihood activities, helping them cope with urban life or generate wealth (Anyamba, 2006).

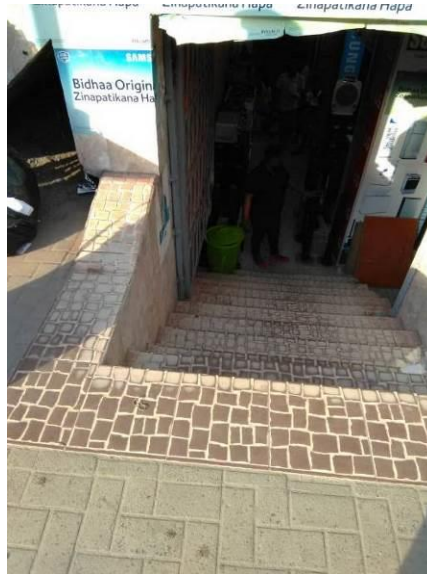
5.12.1 Self-Organized Space Use, Richness, Qualities and Interdependencies

Several physical and visual characteristics are observed in the pilot settlements. The establishments and outdoor amenities differ in informal and formal settlements, ranging from survivalist to high-end commercial activities (Anyamba, 2006). Thus, the amenities reflect the social class of the people in the respective neighborhoods. Furthermore, the commercial spaces (that do not fully portray urban design aesthetic principles) that are created are a result of intuitive knowledge deployed by residents and suggest that professionals are seldom involved. It also shows that residents creatively appropriate and utilize spaces to meet the various needs of the users they serve on a daily basis – RoW is converted into parking spaces and outdoor seating areas; service roads are transformed into temporary or makeshift markets. This process indicates that residents will occupy, design, and appropriate available space due to scarcities in the built environment that result from under-provision by authorities responsible for planning and designing roads. It also shows that the lived space accommodates multiple uses and actors who co-exist through compromises and negotiations. The nature of the spaces further suggests that commercial developments sustain livelihood activities and serve passers-by and residents who stroll or drive along roads. It is a persisting pattern across the city. In addition, the recurring street qualities, outdoor amenities, and diverse functions suggest that the informal design of roads, pathways, and commercial spaces not only leads to visually pleasing streets but also enhances interdependencies among businesses.

There are numerous socio-economic activities and spaces along commercial streets. This character is found in both formal and informal settings and across all categories of roads. Across the city, people are observed sitting, conversing, shopping, and relaxing. Trees and verandas serve these functions, given the high tropical temperatures. The informal design and use of space reflect the negotiated space, a space that continually evolves (Okello, 2013) as well as qualities that urban theorists termed “attributes of a good commercial street” (Gehl, 2016; Jacobs, 1974).

Further, the coexistence of businesses along some of the roads/streets (trunk roads in particular) consisting of temporary spaces such as umbrella sheds and stalls and permanent spaces (block and mortar structures) immediately behind them needs to be further understood to find out how they co-exist. The organization of spaces and the diverse functions are also another interesting scene: adjoining unrelated spaces or dissimilar commercial spaces have been observed along the streets, suggesting that the variety and diversity may also bring tensions when such businesses co-exist.

A large part of Dar es Salaam's street/road fabric is continually being transformed to accommodate commercial activities. According to Brennan et al. (2007), the Kariakoo area (originally the old low-rise African settlement during the colonial period) is now the principal area where commercial activities dominate. The Kariakoo area, located west of the inner city, is now characterized by high-rise buildings and bustles with highly active commercial establishments (Brennan et al., 2007, p. 4; Moshi, 2009).



34 (a)

34 (b)

Figure 34 (a): Left; A typical scene of Msimbazi Street and (b) A common basement commercial space design at Kariakoo (source: author, fieldwork 2018).

Due to the high demand for commercial space in Kariakoo, the basement area has been transformed into commercial space (Figure 34). During the day, due to high volumes of people and business activities, streets are often difficult to access because of heavy traffic and congestion. Parts of Shekilango (Kwa Remmy area) have started adopting basement shops, which, according to Moshi (2009), increase commercial space but also contribute to congestion and health risks.



Figure 35: Old and recently erected high-rise commercial buildings that replaced low-rise African settlement in the colonial period (source: author, fieldwork 2016).



36 (a)



36 (b)

Figure 36: Formal high end establishments in (a) an affluent neighborhood (Oyster Bay, Dar es Salaam) and (b) Formal and informal economies in an informal neighborhood (Mbagala, Dar es Salaam) (source: author, fieldwork 2017 and 2018).

Commercial activities can exhibit high-end characteristics (Figure 36(a)), suggesting that residents in such settlements engage in commercial activities to cope with urban life or generate wealth. Commercial activities can also be a mixture of temporary, informal activities (such as umbrella sheds) on the road frontage and permanent, formal and informal businesses (block and mortar structures) behind (Figure 36(b)), suggesting that in these settlements, commercial activities are survivalist in nature (Anyamba, 2006). When the road has a median and is within a highly populated and informal settlement, it may be characterized by hundreds of informal businesses in the evening and at night. Such businesses also operate on the adjoining tarmacked service roads.

The Kilwa Road Highway (Figure 36(b)) is characterized by hundreds of informal and formal businesses, including retail, leisure (the popular Dar Live entertainment complex), filling stations, and banks. Such an amorphous development calls for a deeper understanding of urban realities, particularly residents' tacit knowledge, compromises, negotiations, and everyday experiences that shape and make the street functional against all planning odds. This knowledge will provide a deeper understanding of actors' contributions and inform a more effective participatory approach in planning, designing, and providing public amenities on roads.

The Morogoro trunk road in the Manzese area, a popular spot for second-hand garments, shoes, and other similar items (Figure 37), attracts high-rise, medium commercial developments and petty traders. The Dar Rapid Transit transportation system may be a significant catalyst for commercial development, as it has increased traffic flow and accompanied improvements to the quality of the main and service roads. It may also be a constraint since it has not sufficiently considered the existing dynamics, such as vast formal and informal commercial activities, including garments, bulk vegetables, fruits, and cereal markets. It has also restricted spaces and crossings from one side to another and has not provided flexible, informal bus stops for customers. Such limitations can significantly impact commercial streets, as flexible crossings increase convenience and ease of access to commercial spaces (Kickert, 2002).



Figure 37: The Morogoro trunk road at Manzese area (source: author, fieldwork 2018).

Morogoro Road (Figure 37) and other trunk roads attract high-rise and medium commercial developments. The Manzese area is no exception. Roads in old historic settlements have a similar characteristic. Haile Sellassie Road (Fig. 38), an arterial road in Oyster Bay, is continually being transformed into an upmarket commercial street with high-end commercial establishments. It is an area that comprised low-rise, low-pitch roof-tiled houses built in the 1920s by the British administration exclusively for government officials (Brennan et al., 2007). Currently, expatriates and affluent residents largely populate Oyster Bay, and it boasts a thriving real estate business that has led to the provision of attractive residences and leisure activities.



Figure 38: Panoramic views of sections of the Haile Sellassie Road, an arterial road in Oyster Bay (source: author, fieldwork 2017).

This road features popular global franchises, financial services, service bays, fitness centers, hotels, drive-through food outlets, bars, restaurants, and nightclubs. The old houses occupy the inner parts of the plots, leaving the frontage for establishments offering outdoor amenities, such as seating areas and parking spaces (which are mostly accommodated in the right-of-way, or RoW). At night, mainly during the weekend, the area attracts users from different parts of the city who flood the road with cars as they flock in to use the beach facilities. Being a rapidly changing street within a formal area, similar to Shekilango Road, its unique high-end nature and attributes require analysis. The current rapid development processes also need to be closely guided to prevent them from leading to over-densification, congestion, and traffic problems in the future.

5.13 Major Lessons from the Streets of Dar es Salaam

From the above observations of the selected roads and movement spines in Dar es Salaam, it is apparent that residents co-design spaces and achieve qualities related to space use and visual and physical appearance. Design elements, such as the veranda and outdoor amenities (including parking and shaded public spaces), offer opportunities for multiple activities, including relaxing, sitting, and socializing. These elements enhance the protection of the street (Gehl, 1987) and make the streets visually appealing and vibrant.

The co-existence of formal and informal economies suggests that there are interdependencies among businesses. As such, these self-organized and informally created streets accommodate residents' basic needs and support their livelihood activities. However, only trunk roads have received the state's due attention (UN-Habitat, 2009). The majority of movement spines (both formal and informal) depict this pattern of development and call for more studies on how such patterns can inform future participatory design approaches. More studies should be directed at other road types, such as Shekilango (an urban road), which, along with many others, remains unanalyzed.

5.13.1 Description of Case Study Area: The Sinza Settlement

The Sinza settlement is located some 8km from the city center of Dar es Salaam in Kinondoni and Ubungu Municipalities. It was planned in the 1970s. Its planning is a result of the World Bank's funded Sites and Services and Squatter Upgrading Programme (Figure 39). It is in Kinondoni municipality. The reason for the WB to select Sinza is that, at the time of the project's implementation, it was a peripheral area in the city with a scattered population (Vedasto et al., 2013).

Sinza was also selected as a suitable case to accommodate the nearby congested Manzese informal settlement, which had been nicknamed "Soweto" since the level of crime in the area was no different from that in the Soweto settlement in Johannesburg, South Africa, during the Apartheid period (Ibid). In that sense, inhabitants who had gotten accustomed to informal practices through occupying and living in informal areas outside government control were introduced to a formally planned settlement whose development was regulated by government authorities.

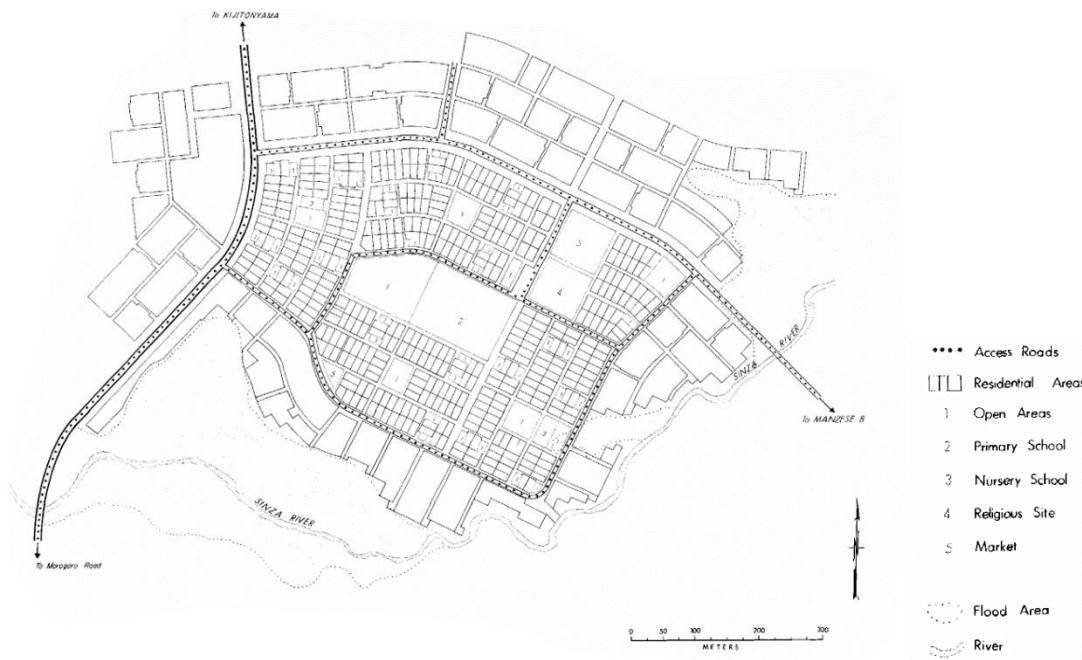


Figure 39: A section of the initial layout of the Sinza sites and services site. On the left is Shekilango Road (source: Transport and Urban Projects Department, 1974, modified by author).

According to the 2022 population census, Sinza had a population of 62,792 people, with a total of 10,874 households, compared to the 2012 census, which reported a population of 40,546 and 9,889 households. The growing population might suggest that Sinza is rapidly growing to accommodate more inhabitants. Sinza comprises five sub-wards, namely Sinza A, B, C, D, and E (URT, 2012; URT, 2022). Among other reasons, Sinza ward attracts people due to its proximity to the Central Business District (CBD) and availability of many social services.

The typical plot design (Figure 40) along Shekilango Road is such that there exist multiple family residences in the back, a courtyard in the middle, and commercial spaces in the front for plots that have a single access road. Plots with more than one access road will have perimeter commercial spaces and a building that houses residences, offices, or commercial spaces in the middle, as shown in Figure 40.



Figure 40: A mixed-use plot configuration showing commercial space, residences and veranda (source: author, 2022).

The commercial spaces, which are the main focus of the study, are linked to the outdoor spaces (veranda, walkway, and road reserve), where most commercial activities take place. The study is narrowed down to commercial and outdoor spaces as elements that define the street frontage, where socio-economic activities and actors' collective and informal development processes take place. It is recognized that the front use may have an impact on the rest of the plot, but for this study, the focus is on the front part.

5.13.2 Housing Development and Financing in Sinza Ward

According to Vedasto et al. (2013), the Tanzania Housing Bank (THB), which was formed in 1972, played a significant role in the development of Sinza. THB was required to finance the construction of houses by providing long-term loans to plot owners for building houses based on a prototype. The prototype designs were such that a corridor was in between two rows of rooms with a veranda in the front and utilities at the rear (Figure 41). This prototype became famously known as the "Swahili house." With such a linear form, the Swahili prototype encouraged incremental construction, as conceived and perceived from the outset. This prototype, however, could not account for future transformation patterns that are evident along minor and major access roads. According to Kironde (1991), not every owner obtained the loan, as only those who earned between \$80 and \$200 were eligible. Developers who had other income means used other professionals to design houses for them.

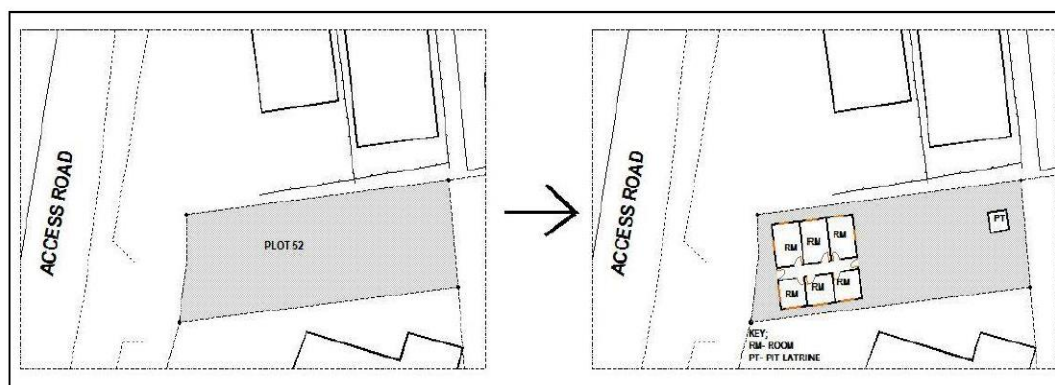
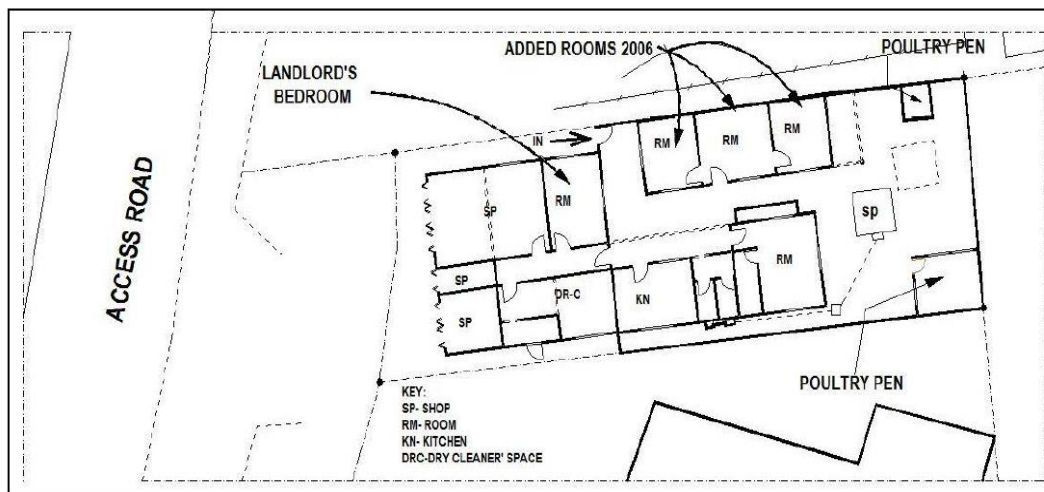


Figure 41: A typical plot organization showing commercial spaces in the frontage of the house and residential spaces that were added into the back of the plot (source: Vedasto et al., 2013).

According to Vedasto et al. (2013), the development of Sinza into what it is today began in the mid-1970s. As a new settlement, some of the owners kept cattle and poultry and engaged in some gardening. Building permits were applied for after submitting drawings that were often prepared by drafting technicians who would visit the site for inspection. However, thereafter, changes and extensions were done informally. Rooms were changed into shops. Take, for example, a plot with a single-family house developed incrementally from 1977 to 1980 (Figure 42). A foundation for a studio apartment, an outer kitchen, and washrooms were added in the rear part, and construction began between 1980 and 1990. Between 1990 and 2000, the main building and extensions were completed.

The landlord occupied the self-contained room, while the children used the outdoor units and bedrooms and shared a toilet. The two rooms facing the road were converted into shops, and the front entrance was closed, leaving a small commercial space.

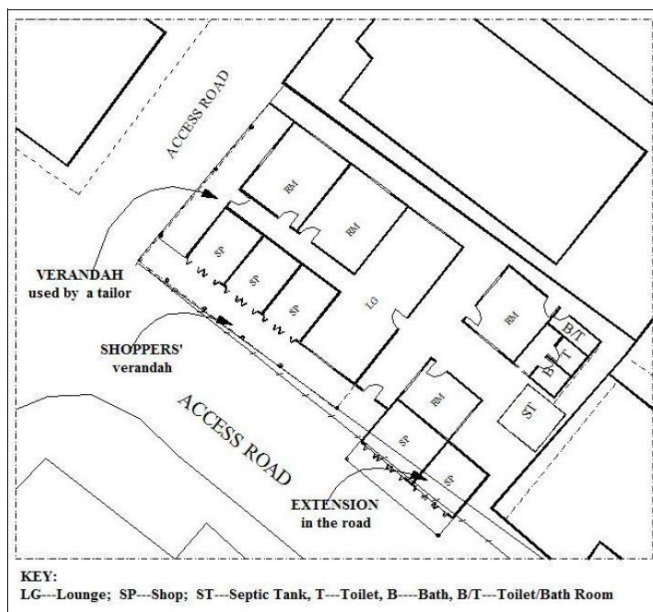


Figure 42: An overall development of a plot from 1974 – 2010 (source: Vedasto et al., 2013).

The illustration in Figure 42 shows how the main road began to attract commercial activities and how residents responded to the demand. The economic hardship that they faced forced them to seek alternative livelihoods to generate income to survive in urban areas. A critical feature along the road is the “shoppers veranda,” which is introduced in front of commercial spaces to provide covered access and a transitional space between the outdoor environment and the interior commercial spaces. With the growing demand for commercial spaces in the case study, this space became a multi-functional area that accommodated several functions, including storage, socializing, food vending, displaying goods, and resting.

5.14 Chapter Summary

The spatial structure of Dar es Salaam has been observed to grow from its traffic spines, leading to the provision of various services and the achievement of different qualities of space. Coupled with informality, urban transformation in urban areas is mainly influenced by livelihoods and leads to varied typologies of commercial streets and spaces. For instance, survivalist as well as affluent characteristics are observed. Both formal and informal economic activities exist within the urban commercial streets studied. In what follows, Shekilango Commercial Street, the case study street with similar characteristics, is analyzed and discussed.

CHAPTER SIX

ANALYSIS AND FINDINGS

6.1 Introduction

This chapter presents findings and analysis based on the empirical data collected over four distinct periods. It includes findings from the pilot study and the main data collection phases. This chapter describes and discusses self-organized practices and the interactions and interrelations among associated actors. It also discusses the qualities of self-organized commercial street spaces and how the main actors interact to generate commercial streets. Mapping of selected compounds and conflicts that emerged and were resolved through self-organized processes are also presented and analyzed.

Further, the chapter links self-organized practices and qualities with livelihoods by analyzing the physical and social assets observed along commercial streets. This chapter also reveals the abundance of rich qualities achieved and the scarcities and challenges experienced by residents, as well as how participatory design can help address them. The limitations and potentials that self-organization presents, as well as the meeting of residents' needs and the technical frameworks of professionals and authorities responsible for urban development, are also discussed.

6.2 Data Processing and Analysis

As discussed in Chapter Four, data analysis was preceded by data familiarization (Stake, 1995). This was essential in finding out probable factors that influenced the interviewees' responses. Factors such as holding back information (due to fear of authorities), helped to shape the analysis and the synthesis. Other factors are the availability and willingness of users to participate (particularly landlords), and the state of mind (interviews during demolitions and road construction in 2020).

Memes (Ibid) were prepared after the familiarization of data. These established the main reflections and guided the analysis.

- Gaps, inconsistency in disseminating information to citizens and lack of participation when conceiving ideas.
- Citizen involvement is adequately done when residents complain during implementation through citizen-led groups.
- Citizens physically, directly and casually interact with professionals and authorities during spatial development projects and formally and through letters in post-spatial developments.
- There are positive contributions to spatial qualities achieved by citizens and negative contributions that call for participatory design or active involvement of professionals.
- The parking space is an important amenity but sustainably, it needs to be addressed differently.
- Self-organization is paramount when seeking solutions to spatial mishaps and challenges that are a result of citizens' inadequate involvement.
- Self-organization leads to self-organizing economies that comprise informal, formal economies and employment.
- The production of space reflects how a society gradually produces spaces for livelihoods. Representations of space and representational spaces inform challenge the theory of Social Production of Space.
- Authorities' approach to spatial development is Neo-liberal and disconnected from the local context and is contrary to residents' approaches which involve spontaneous informal processes that are meant to fill the gaps of the state's spatial development approaches.
- Observations through shadowing and design anthropology show both cooperation and tensions between neighboring businesses; like poles repel; unlike or inter-dependent businesses attract, like poles also attract
- Authorities and property owners tolerate self-organized informal economies for security concerns (a case of bodaboda stations and informal business operators).
- Security concerns can trigger tensions between businesses (the NMB bank and bodaboda station) at the Mori junction.
- Business operators are interdependent; kiosk operators and trucks depend upon one another for safety and security; businesses likewise depend upon one another; cereal shops with cereal shops and convenient shops;

this negates similar business tensions. Street hawkers stay at mama ntile shops as they await traffic light signs but are allowed because they are customers. There are strong social networks that enable livelihoods of businesses; stationeries, pharmacies, bars and carwash facilities, night clubs and fast food joints etc. The Golden three bar allows bodaboda drivers to stay close by and use their space because they buy food as well as watch football matches (entrance fee is a drink). Zuberi (vitumbua) is allowed by the owner to stay in the premise to sell bites to passersby, shop owners and bodaboda because he provides security for customers' cars.

- Citizens directly affected by top-down spatial developments are active in both meetings and actively interact with professionals and authorities in addressing the challenges that they face; the Kwalalumpa complex, Berogenge, Azania etc.
- Self-organization can lead to conflicts amongst tenants if not properly coordinated or follow a strict rule of law; a case of Bodaboda stations.

After the memes were outlined, codes, categories, themes, and sub-themes were formulated based on the collected data. Then, the theory that guided the analysis was assigned and explicit connections that guide the analysis that follows, were drawn. Table 15 summarizes this process.

Table 15:Codes, Categories and Themes

SN	Code	Category	Theme	Sub theme	Theory	Explicit connections
1	Adherence to laws and regulations	Urban residents' spatial development practices	Informality, design and planning	• Building permit application • Setbacks and coverage • Involvement of professionals	• Informal urbanism • Urban planning • Social production of space	• Informal piecemeal extensions and inadequate involvement of professionals leads to substandard design, poor ventilation and poor lighting and may threaten livelihoods. • Residents' non-adherence to regulations and informal processes portray the societal practice in generation of space.
2	Residents' initiatives in generating space and reactions to top-down spatial development	• Actors' actions and interactions	• Self-organization • Livelihood social asset	• Individual actions • Collective actions • Skilled communicators • Limitations and potentials	• Complexity theory • The ladder of participation	• Residents use tacit knowledge (skills, know-how and intuition to generate spaces for their daily livelihoods activities. • Residents react to top-down processes when they feel that their livelihoods are threatened, leading to self-organized individual and collective actions. • Residents self-organized actions help to overcome scarcities in the built environment and lead to the introduction of amenities (bodaboda stations) and convenience in accessing commercial spaces. • Flexibility in integrating residents' initiatives which are somewhat informal, reflect the dynamic process in the complexity theory. • There exist structures in leasing, creating and appropriating space between owners and tenants.
3	Space creation, space use and space appropriation	• Indoor and outdoor commercial space • Quality of space and richness • Activities	• Contextual qualities of space, activities and richness • Livelihoods physical assets	• Space appropriation • Parking space and veranda • Conflicts/tensions • Signage, display • User experiences	• Lines • Social production of space • Complexity theory	• Due to inadequate involvement of professionals, conflicts amongst actors exist in terms of outdoor space use and functions. • The self-organized commercial street has spatial qualities,

				• Leasing, conceiving, creating and appropriating space • Necessary, optional and social activities	• Urban design theory • Sustainable livelihoods	richness, activity types. • The self-organized commercial street reflects urban design theories on the design of commercial streets and social production of space. • involvement of professionals is dynamic. • Their social relationship portrays interdependent systems
4	How authorities involve residents in spatial development	• Dissemination of information • Actors' interactions in conceiving space • Actors' interactions in spatial interventions • Limitations and potentials	Participation and participatory design	• Means of communication • Interactions in conceiving space • Interactions in space interventions • Nature of work and flexibility in professional-led projects.	• The ladder of participation • Complexity theory	• Residents have autonomy and freedom to create space in which authorities give a blind eye. • Means of disseminating information to Residents are inadequate and inconsistent. • To protect their livelihoods, residents self-organize and interact with authorities and professionals differently during implementation of spatial development projects.
5	Resulting socio-economic livelihood parameters	• Interdependencies • Informal/micro economies • Macro-economies	• Livelihoods social assets • Survivalist economies • Coping with urban life and Wealth creation • Formal and informal employment	• Social networks amongst actors • Systems and subsystems • Survivalist economies • Coping and wealth creation	• Complexity theory • Sustainable livelihoods	• The self-organized commercial street comprises various livelihoods and portrays interdependencies amongst the various actors thereby addressing systems and subsystems described in the complexity theory. • Systems are in the form of interdependencies amongst actors/users and on amenities that they informally generate.

6.3 Findings

In 2019, 2020, 2021, 2022, and 2023, the pilot study and the main fieldwork were undertaken, respectively. The pilot study enabled a review of the data collection methods. It was conducted for testing the methodology prior to conducting the main data collection. Through the pilot study, design anthropology, and shadowing were employed as the main data collection methods due to the busy schedules and unavailability of the main respondents (landlords and tenants) during the pilot study. Secondly, having employed the anthropological approach, data on space use, self-organized practices, actors' interrelations, and qualities of space in accommodating different activities were documented and analyzed. Data collection and analysis covered a total of 61 plots (39 mixed-use and 22 parking frontages) among 148 plots. These plots were identified using a purposeful sampling technique. This approach was opted because plots with varying commercial functions and amenities were the primary focus. In Sinza A, B, C, and D (Figure 43), twelve conflicts (appendix 7) in the form of evictions of businesses such as trucks for hire and displacement of motorcycles (bodaboda) stations that resulted from the road expansion were analyzed. The conflicts were also related to the blockage of access to the business premises, reduced or displaced parking spaces, and the displacement of spaces for informal businesses that had existed before the road expansion.



Figure 43: A map showing Sinza wards and the Shekilango commercial street in orange. ²⁷

6.3.1 The Pilot Study

The pilot study was the second phase of data collection, carried out with the intention of testing the proposed research methods. It was conducted along Shekilango Road in Sinza A, B, C and D in 2019 and 2020. The areas that were investigated are Kijiweni, Legho, Africa Sana, Kwa Remmy, Bamaga, Madukani, and Kumekucha. The methods that were employed were interviews and observations. The main respondents were landlords and business owners. It was conducted using guided interviews (appendix 4). Among other issues, the history and important stages of the business, space generation

²⁷ Source: earth.google.com, accessed 13:53, 15th September 2021, modified by author.

and appropriation, the link between decisions and livelihoods, tensions and cooperation between users/functions, and future prospects were investigated. A total of seventeen (17) business owners and six (6) landlords were interviewed. Also, twenty nine (29) residents were interviewed regarding aspects such as the benefits and challenges of the residential-commercial mix along Shekilango commercial street. Sixteen (16) plots were investigated. The interviews and the investigated plots formed a basis for conducting the main data collection. Table 16 summarizes major lessons and implications of the pilot study and how it informed and shaped the main data collection.

Table 16: The summary of the pilot study and its implication on the main data collection.

S/N	Tested methods/techniques	Results	Implications on the main data collection
1	Interviews	• Were useful with landlords who did not run businesses. • Tenants revealed limited information due to busyness. • Tenants play a bigger role in creating space.	• Make use of design anthropology (ethnographic methods) to capture more information. • Interact more with business owners.
2	Observation	• Revealed limited information on interrelations and interactions.	• Add shadowing to observe participants. • Co-work and spend more time and listen while observing.
3	Filming and photography	• Captured important moments and information.	• Encouraged to continue with the techniques.
	Investigated information	Results	Implications on the main data collection
4	Interrelations and networks	• The methods employed revealed limited information.	• Observe, inquire and investigate more on how users cooperate and depend upon each other. • Co-work, conduct shadowing and socialize to reveal deeply-rooted networks.
5	Space generation	• Dynamics in the veranda and parking. • Dynamics between landlords and tenants • Livelihoods influence decisions. • Non-adherence to regulations and informality. • The parking space and veranda were dominant spaces.	• More observations in the outdoor spaces and amenities. • Investigate more on collaborations. • Investigate more on livelihood parameters. • Use measurements to investigate how users consider building regulations. • Investigate more on the outdoor amenities (parking spaces, veranda and adjoining outdoor spaces) to find out how they are generated and used.

6.4 Understanding Self-Organized Co-Creation of Commercial Street Spaces

The design process of self-organized commercial streets is a co-design process in which landlords and tenants often jointly make decisions on design and construction. In this sense, co-design entails a process in which users (landlords and business owners) collaborate with other actors to achieve three aims: generating ideas, empowering themselves, and validating concepts (Wang et al., 2022). These processes occur with or without the involvement of professionals.

Self-organized actions were triggered when users experienced difficulties, such as parking and accessing commercial premises after the road was constructed. The processes were also triggered by the fear of losing livelihood assets and opportunities, including parking spaces and areas for livelihood activities, suggesting that discomfort, fear, and irritation (Gielen et al., 2017) influenced their collective and individual actions.

To understand self-organized practices, it is essential to examine two key aspects that were observed during empirical data collection. One is associated with how property owners and tenants co-produce space, and the second one is associated with the individual and collective actions by users who react to the top-down processes in urban environments, i.e. (activist/deliberate self-organized co-creation).

6.4.1 Property Owner and Tenant Self-Organized Co-Creation

Property owners develop their plots and the immediate outdoor spaces to meet the market's demand for commercial spaces. They build new commercial spaces, convert existing residential house frontages, or extend existing houses to create vibrant commercial spaces. In doing so, verandas, outdoor spaces, and parking spaces are created. For the physical space, this creation involves conversion, vertical or lateral extensions, and other related processes. For the amenities (outdoor and parking spaces), it involved demarcation and surface treatments, such as paving of the spaces.

To ensure proper parking spaces, some owners paved parts of the unoccupied right-of-way (RoW). This construction can also be done by tenants depending on the agreement with the owner. Since parking spaces are often accommodated along the RoW, this process typically involves applying for a permit from TANROADS. Other self-organized processes involve covering open stormwater channels with concrete slabs or mild steel covers to provide vehicular access and parking, which is done by either the landlords or tenants and responds to the first research question.

6.4.2 Deliberate/Activist Self-Organized Co-Creation

The individual and informal collective actions that defy rules and regulations to define planning parameters that respond to livelihood needs rather than public interest portray deliberate self-organized co-creation. The actions happen outside government control and result in informal developments that are not in line with development regulations. Structures without setbacks (zero) are typical cases that are rampant and make the formally planned residential settlement appear informal. Another typical case is the informal conversion of residential use into commercial use by gradually adding commercial spaces onto a residential house with a residential title deed. This is done by subdividing and modifying, renovating, or converting rooms facing the street into rental commercial space. They are deliberate because property owners or tenants deliberately resist or refuse to seek building permits, knowing that the request will not be granted since the developments are against regulations. The government pays no heed to these developments. This piecemeal and gradual transformation has led to the filling up of the frontage of plots to the extent that there is no setback or space for outdoor amenities, such as verandas, shared outdoor green areas, and parking spaces.

Activist co-creation, as echoed by Mitlin (2008), is exhibited through collective or individual actions by multiple actors aimed at standing up against state-influenced interventions that affect their livelihoods. Here, actors come together to question, complain, report, and negotiate for changes that aim to improve

the space for their livelihood needs. Some groups even rioted due to irritation and fear (Gielen et al., 2017) of losing space for conducting their livelihood activities.

*"We had been told that our business space would be temporarily reallocated to the junction of Shekilango Road and Tandale Uzuri Road to make way for the road expansion. But when the road construction was completed, the authorities did not allow us to park our trucks at the old space, discussions and negotiations did not go well so we resorted to rioting and forcefully parking. After unpeaceful clashes with authorities, we eventually succeeded to win our old space back"*²⁸

Groups of residents and business owners collectively and individually approached the local government, the contractor, and professionals to air their concerns about the newly installed walkways and the expanded road. For instance, they demanded that access be provided to their commercial spaces and that parking spaces be considered in the road expansion project. Residents who could not meet their needs through these channels (pickup/truck drivers at the Shekilango-Tandale junction) resorted to rioting and forcefully occupying the space from which they were displaced after the road expansion. This suggests that residents already know what is desirable for their livelihoods. On the other hand, since residents do not often involve professionals or adhere to regulations, their actions may also threaten the sustainability of the streets' livelihood activities. The reactions, actions, and the gradual landlord-business owner coproduction of space answer research question one: users not only co-produce urban space, but they also come together to stand up for it, safeguarding it for their needs.

The willingness to negotiate with residents on the authorities' side suggests that timely participatory sessions are possible prior to making decisions that may affect built environments, serving the interests of many actors. This answers research question three, as such interactions between users, authorities, and professionals can begin at early development stages, where each actor's needs and contributions can be discussed in participatory design sessions before decisions are made.

6.5 Informal and Self-Organized Planning and Design Parameters.

Actions of landowners, business owners, and authorities have an impact on the planning and design parameters in terms of development controls, i.e., where existing setbacks and plot coverage are ignored, as well as on the nature and quality of living and working spaces. The resulting planning challenges call for participatory design approaches; property owners extend their houses and infill their plots, densifying their areas by adding more commercial space without seeking the approval of authorities or professionals. Often, tenants make optimal use of the available spaces. The two primary actors significantly affect the quality of the space, as the area for domestic activities is highly compromised, and the space for the veranda and parking is contested. With all three actors working independently and without frameworks that can regulate their actions related to developing commercial premises, spatial challenges are inevitable. Users' actions and decisions do not always positively contribute to the functional urban space. In this sense, their actions and decisions cannot be romanticized; instead, they must be understood in their historical context.

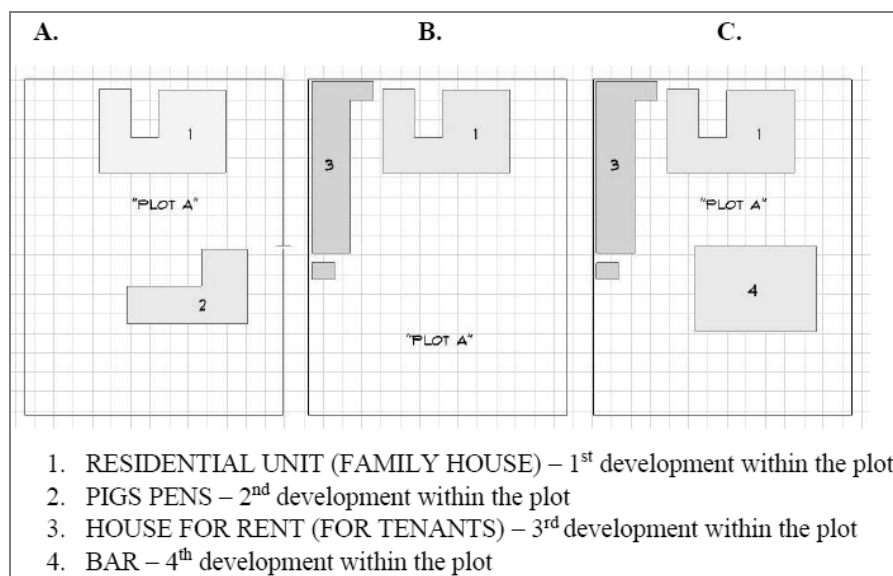
According to the owner of a plot in the Mori area along Shekilango Road, he started construction of his house by securing a bank loan in the 1970s. He kept pigs in the front of his house, which is now where

²⁸ Interview response with a truck driver at the junction of Shekilango and Tandale Uzuri Roads in 2023.

the La Kazza commercial premises are located (Figure 44). When he was transferred to Mwanza in 1990's, his sons built a rental house on the plot adjacent to his first house. Later on, in the 2000s, the front area of the unbuilt plot was rented out and used as a bar, and in the late 1990s, extensions of commercial spaces began. The bar was later replaced by a fast food business, which didn't flourish. According to the respondent, the dominance of boutique spaces in the area led to the adaptation of a similar business in his plot.

"I was a banker since 1969 and retired in 1998 as a general manager of Tanzania Postal Bank – Mwanza. In 1976, Sinza had plenty of cashew nut trees and didn't have roads. There were very few people. I first rented out the front part to the Makonde²⁹ people for poultry farming to have people around. Later, I built a pig pen. When I was transferred to Mwanza in 1996, my children built rental houses, and then a bar was constructed (Lily's Bar). I built 'frames' after being approached by businessmen. I was convinced that it would be profitable because they were the new popular developments along the road".³⁰

The piecemeal development process suggests that non-professionals transform land use and, in doing so, create spaces by utilizing tacit knowledge acquired over time as they test different options until they arrive at a design that works. This may be achieved by imitating other property owners or by sharing knowledge that is passed down from one owner to another. This process highlights residents' contributions to planning and design, which depict the everyday changing urban needs and realities, and responds to research question one. These realities need to be thoroughly analyzed and understood, as they are residents' efforts to overcome scarcities that are apparent due to the state's under-provision of amenities. This pattern of development is typical and illustrates how the road is gradually transformed into a popular commercial street. Its transformation can be a source of food for thought for professionals and authorities alike in future developments of commercial streets and the importance of participatory design.



²⁹ Makonde is a tribe from Mtwara – southern Tanzania that is famous for petty trading.

³⁰ "Frames" is a local terminology for commercial spaces.

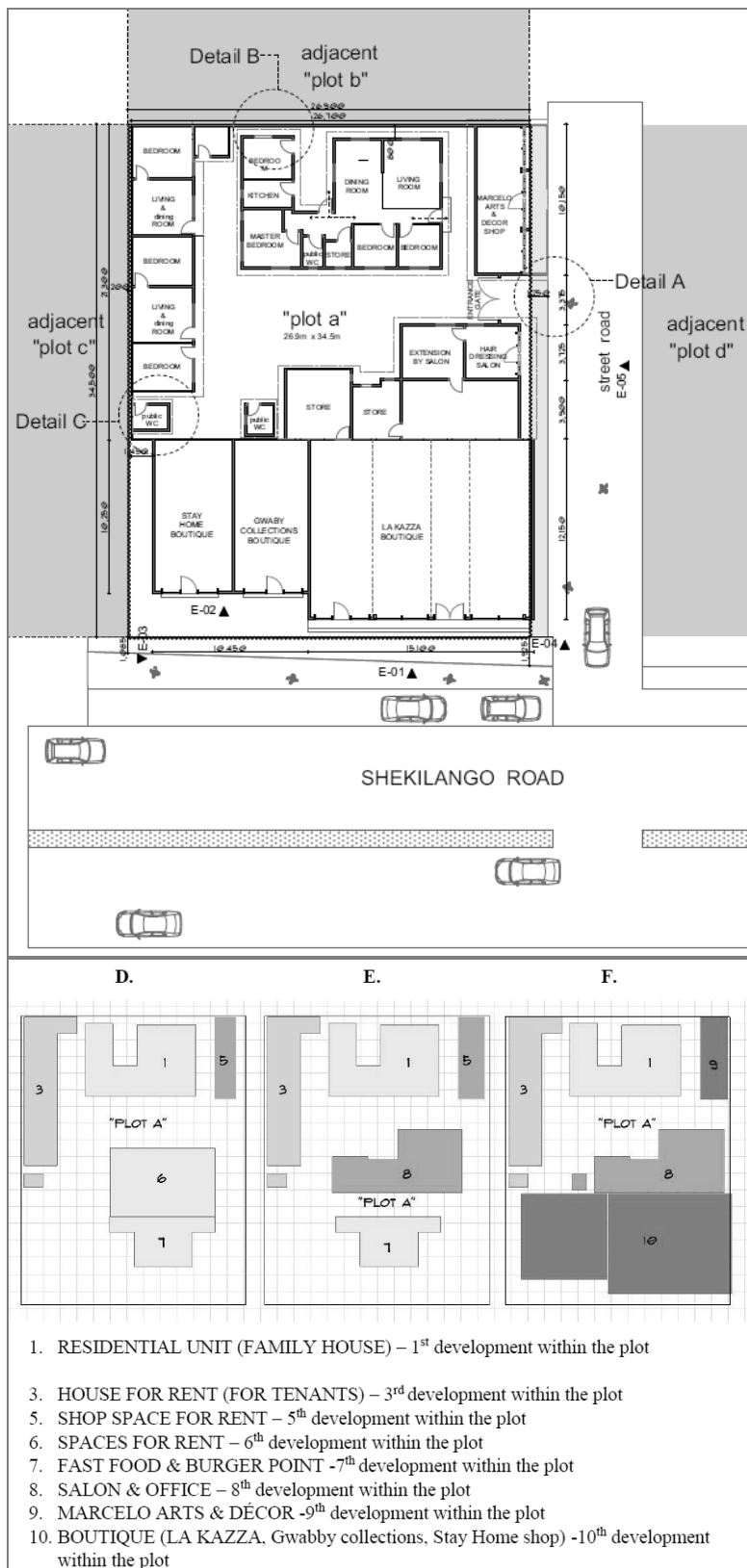


Figure 44: A sub-case showing how an owner and tenant developed a plot from mid 1970s to date (source: author, 2021).

Livelihood activities and commercial space demand put considerable pressure on the plot, violating guidelines as plots are excessively over-densified. Plot coverages as dense as 80% were observed, leaving no space for parking, and with minimal semi-public and open space inside and outside the plot. This suggests that without the active involvement of professionals or authorities, unregulated

development or change of use may lead to implications for the spatial qualities that affect the public interest as a whole (Moshi, 2009).

These user-generated qualities and deficiencies, resulting from the lack of participatory design approaches and diverging from urban design principles of harmony, rhythm, and beauty, respond to research question two on the qualities of self-organized commercial spaces, suggesting that some of the user-generated attributes should not be romanticized. Furthermore, without the active involvement of key actors, vital public needs will be undermined. For instance, the self-organized interventions by residents often came at the expense of crucial outdoor space in some of the cases. Many tenants and landlords were willing to lose pedestrian walkways and outdoor green or paved spaces to make way for permanent formal parking spaces.

Empirical investigation further revealed setbacks that range between 0m and 1.3m, which falls short of the minimum requirements stipulated by the Urban Planning Standards of 2007, which are 1.5 m and 3 m. Plot coverages that range between 60% and 80% against 40%, as prescribed in the 2007 Planning Standards for high-density plots, have also been observed. These intuitively adopted standards lead to challenges such as unventilated and dark residential spaces and congestion (Moshi, 2009), as shown in Figure 45.



Figure 45: Dark and narrow alleys within a plot along Shekilango Road resulting from piecemeal construction and nonconformity to regulations (source: author, fieldwork 2019).

It is apparent that without the active involvement of key actors, it is difficult to achieve coherent urban development that meets both users' needs and complies with development regulations. Given that standards and regulations are known to a few, those who have the capacity and agency to informally implement their design proposals can be assisted in avoiding critical issues related to poor ventilation, lighting, and a lack of amenities. In such contexts, participatory design can enable non-professionals to collaborate with professionals and authorities to co-design and co-develop plots.

6.6 Actors' Interactions in Creating Commercial Streets

Actors with different capacities were identified in the study area, including primary actors who generate a variety of spaces along the streets and roads. These are mainly developers, landlords, and business owners. Tenants who rent spaces are critical primary actors, as they occupy and utilize space to meet

their needs. They impact both interior and exterior spaces as the two are interdependent. The relationship that exists between these two actors is based on, firstly, ownership and, secondly, the construction process. Users positively contribute to creating spaces when they acquire and appropriate them, as they become part of a process that generates commercial space and its socio-economic benefits. The qualities of the spaces also reflect achievements by non-professionals, such as convenience in accessing commercial spaces, as well as diversity in functions, display, and signage design. However, the involvement of non-professionals may carry negative traits when they, for instance, encroach upon public space to meet their needs. For example, parking spaces are obtained at the expense of pedestrian walkways.

Despite authorities turning a blind eye to users, especially non-professionals (who are the main generators of space), such actors operate with limited information. Their involvement is limited at all stages. Therefore, property owners and tenants take the liberty of developing plots (interior and exterior) while authorities (local and central) collect statutory payments afterward. The “complex relationship” gives primary actors, particularly property owners and tenants, an upper hand in the development and use of their spaces, allowing them to meet their needs. This is achieved through unregulated informal developments and negotiations through self-organization.

“Residents already know that they must apply for the Change of Use before any developments. We do not have a problem with their developments; they can develop their plots, but we inspect, and if they have made any changes from the original residential design to commercial spaces, we will penalize them.”³¹

As primary actors in space generation, property owners informally transform residential land use into commercial space. Owners may demolish and build a new, extend, convert, or add construction as an infill. As noted earlier, such construction can be done under formalized contractual arrangements. Tenants can also be primary actors. For example, if a tenant has a long lease, they may be granted the right to rebuild or transform the structure, provided that there is a valid agreement and contract in place. In such cases, the arrangement may be referred to as build, operate, and transfer (BOT), i.e., the tenant would be responsible for conception and construction and also operate to recover his/her costs but pay an agreed rent till he/she recovers all his/her cost thereafter transfer the property to the owner.

As secondary actors, business owners contribute to the self-organized development process by appropriating the commercial premises they rent. They are actively involved in appropriating the veranda and outdoor spaces. Additions of services or stalls and treatments to the external space for accommodating one's own and customers' cars are examples of such interventions. This interaction addresses research question one on how actors (users) interact to create space. From the interviews and observations, a vast list of actors involved in the co-design of the streets was observed. This process falls into two main stages: first, the acquisition of land or space and the creation of commercial spaces, and second, the operations and use of the space (Figure 46).

The tenants are the most active throughout the business's lifespan. Next to them, a series of actors can be termed “passive” or “instantaneous” as they are engaged in specific tasks at specific times and hence have a temporary status. Such actors include real estate agents who are responsible for facilitating the acquisition of space for commercial activities. Other actors in this category include masons, electricians,

³¹ Interview with the ward leader, Sinza Ward.

mechanical (AC) technicians, and plumbing technicians. Also, carpenters, welders, artists, graphic designers, architects, and lawyers are involved. Another category of actors consists of those involved in the daily activities of commercial spaces.

According to the respondents, when business is ongoing, they interact with fellow tenants, suppliers, manufacturers, residents, customers, passers-by, and local authorities. Some actors may be involved in both the formation and operationalization of commercial street spaces and might influence the design of the space, for example, due to statutory requirements. For instance, municipal authorities may intervene when users do not adhere to regulations. Company standards may also influence the design when they have specific spatial requirements. Such actors include manufacturers, suppliers of different products, and corporate companies. This observation also responds to research question one in that property and business owners interact with numerous other actors, including authorities and professionals, in the generation of space.

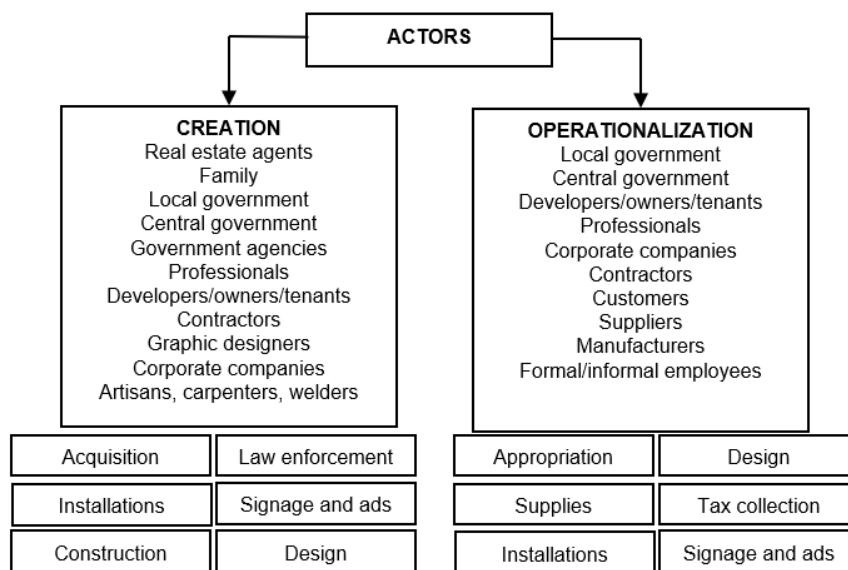


Figure 46: Actors' involvements in the creation and operationalization of commercial streets (source: author, 2022).

Table 17 summarizes the role of different actors in various activities. From the table, it is observed that contractors are involved mainly in major alterations and construction. There is limited involvement of professionals in the design as well as in minor alterations. Professionals are involved in bigger construction projects due to the fact that vertical extensions and larger constructions get the attention of authorities, hence developers are forced to adhere to building regulations.

Table 17: Building scope and actors' involvements

Actors	Development stage/scope						Role
	Land acquisition	Design development	General Construction	Interior alterations	Minor exterior alterations	Major alterations and Vertical extension	
Realtors	*****	-	-	-	-	-	Facilitating space acquisition
Fellow tenants	N/A	***	***	**	****	***	Appropriating shared and private spaces
Friends and family	***	N	N	N	N	N	Facilitating space acquisition
Contractors	-	-	**	-	-	*****	Constructing large-scale projects
Artisans	-	*	*****	*****	*****	*	General construction work
Professionals	-	**	*	*	*	****	Designing, advising and facilitating building permit acquisition
Graphic designers, electricians, carpenters, artists etc	-	***	****	****	****	**	Signage design, interior and exterior installations
Landowners	*****	**	**	*	**	****	Developing and enabling supportive business spaces
Local authorities	*****	-	**	-	-	*****	Linking residents with road agencies and inspections

*****Very high, ****high, ***medium, **low, *very low, - not at all, N/A not applicable, N neutral.

(source: author, 2023)

Land acquisition: searching and purchasing or renting.

Design development: conceptualizing the commercial space design and construction and engaging builders.

General construction: demolitions, building a new low-rise commercial space, or installing pavement and tiles.

Interior alterations: painting, adding new textures, installing inbuilt shelves, lighting, and the like.

Minor exterior alterations include painting, adding new textures, installing signage, and installing barriers between tenants.

Major alterations/vertical extension: conversions, major renovations, adding floors above, demolition, and building high-rise commercial space.

Table 18 captures how various actors interact in before, after implementing spatial development projects and in using space among other interactions. From the table, the interaction among authorities, users and professionals is very low before the construction of Shekilango road but is high during construction. The interaction between tenants and landlords is also high in designing and generating spaces and supporting their livelihood activities. However, the interaction between these actors and authorities is very low when accommodating livelihood parameters.

Table 18: The degree of interactions amongst actors

Actors and activities	Degree of interaction					Remarks
	Very High	High	Medium	Low	Very low	
Residents, authorities and professionals before project implementation					√	Users are left out when authorities and professionals conceive design proposals
Residents, authorities and professionals during project implementation	√					Due to limited involvement of users, interactions are carried out to overcome limitations
Residents, authorities and professionals after project completion			√			Local government authorities become a link between users and professionals/contractor
Property owners and tenants in creating space	√					Property owners and business owners co-create space on a daily basis to meet their livelihoods needs
Business owners in creating and using space			√			Business owners largely generate and appropriate space independently
Property owners, business owners and builders in design and construction		√				With limited involvement of professionals, users guide artisans using tacit knowledge
Property owners, tenants, builders and professionals in design and construction				√		Professionals largely facilitate formal procedures such as building permits. Their involvement afterwards is limited
Property owners, tenants, builders, professionals and authorities in design and construction					√	Authorities give space generation and design proposals a blind eye.
Property owners and tenants in accommodating livelihood activities	√					Interactions and key decisions on the qualities of the built environment are meant to address mutual interests i.e. livelihood needs and income generation
Authorities with other actors in accommodating livelihood activities					√	Top-down processes that lead to inadequate involvement of users downplay initiatives meant to support livelihoods needs

(Source: author, 2023).

6.6.1 Ownership and Tenancy Structures

The self-organized generation of commercial streets and spaces is achieved through multiple approaches, including contracts among landlords, tenants, professionals, and contractors or builders. Such arrangements relate to how the design and construction will be carried out. In some instances, design is done by one of the three actors and implemented under the supervision of one of the three actors or a combination of the three actors.

Observations and interviews revealed that some property owners grant all rights to tenants who intend to have long lease contracts. This is also made possible because of the trust that is built between them over time. This results in models being built and occupied in the spaces. Table 19 shows the models that were observed. Three (3) plots were developed and occupied by the owner, thirty-one (31) were designed and occupied by tenants, and the remaining five (5) were created by the owner and occupied by tenants, suggesting that tenants have a significant share in the development process of Shekilango commercial street.

Table 19: Ownership and Tenancy Models

Model	No.	Remarks
Owner-built, owner operates.	3	Facilities, such as restaurants, are built on plots purchased by investors—mostly large investments with 1-3 tenants.
Tenant-built, tenant operates.	31	Construction of new commercial spaces in the front part of the plot. Landlords are paid according to agreements with developers or tenants. Mostly mid-size to large investments with 1-10 tenants.
Owner-built, tenant operates.	5	1. It involves minor alterations, conversions, and extensions of the front part. Small size low-rise investments with 1-7 tenants. 2. Involves construction of new commercial spaces, low to medium rise on purchased plots—Mid-size to large investments with 8-10 tenants.
Total	39	

(Source: author, 2022).

6.6.2 The Structure Employed in the Design and Construction of Commercial Streets

Empirical studies have shown that design and construction can be done through arrangements and agreements between the owner, tenant, and professional. Below are the models that were identified in this study:

- Owner/tenant designed, supervised by professionals
- Professional-designed, supervised by professionals
- Owner/tenant-designed, supervised by owner/tenant
- Designed by a combination of the three actors and implemented under the supervision of either one or a combination of the three actors.

The authorities responsible for enforcing laws and regulations are also critical primary actors. These actors include MLHHSD, the Kinondoni Municipal Council, local government (at the Mtaa and Ward levels), professional boards, TANROADS, and TARURA. The latter two agencies oversee road developments in the country, in which their role, in most cases, is to develop roads and ensure that developments along them are in line with rules and regulations. This observation responds to research question one in that, even though users largely and informally develop urban space, they interact with various formal institutions and actors, i.e., when they solicit approvals, acquire design proposals, construct commercial spaces, and operate them using formally agreed-upon contracts.

According to a senior planner from MLHHSD, the Ministry essentially sets policies and acts in the public interest. According to the planner, the Ministry (the main custodian of land development) does not formulate policies that integrate violations pertinent to setbacks, plot ratio, and coverage that are stipulated in development regulations. This suggests that the Ministry does not allow users to do what they mostly want, regardless of how much the resulting spaces meet their everyday socio-economic needs. This makes it challenging to have spatial development approaches and policies that support local actors' contributions, which professionals can utilize. According to Tsing (2017), professionals should design around such outcomes and not against them.

According to a respondent, the Kinondoni Municipal Council is responsible for enforcing laws and regulations. The municipal authority does this through visits and site inspections during construction,

checking if builders have building permits and are complying with the regulations. However, the building permit may be secured by actors only as a gesture for adherence to building regulations and standards. In reality, the construction may differ. At this juncture, participatory design may be helpful in bringing together these actors so that the involvement of each becomes vital for ensuring the integration of the interests of all actors, including those of the public.

Table 20 shows that the majority of residents do not apply for building permits even though they involve professionals in the preparation of drawings. Additionally, the majority do not involve formally recognized contractors for building. The limited involvement of professionals suggests that residents deploy tacit knowledge. When asked why there is limited involvement of contractors, respondents reported that they guide artisans who are cheaper and take the place of contractors.

Table 20: Building Permit Applications and Involvement of Professionals and Contractors

Application for building permit		Involvement of professionals in design and construction		Involvement of contractors in construction	
Yes	8	Yes	11	Yes	5
No	21	No	25	No	22
Vague	10	Vague	3	Vague	12

(Source: author, 2019).

The respondents also reported that new constructions, extensions, infills, alterations, or conversions were carried out without seeking approval from the authorities. However, through observation, construction sign boards for multi-storey buildings, and interviews, it suggests that owners were aware of the statutory requirements for erecting new structures and sometimes involved professionals.

The professional boards, specifically AQRB and ERB inspect projects to ensure that the boards of architects, quantity surveyors, and engineers register them. Secondary actors, such as graphic designers, carpenters, and electrical technicians, temporarily engage in the production of space. For instance, the design and installation of signage are done by secondary actors.

According to the two respondents (owners of a lady's clothing store and an online business), during the road expansion, they realized that only a bus stop was provided in front of their commercial spaces. Since parking space is one of the most important amenities for operating commercial spaces, they organized themselves and confronted TANROADS, later writing a letter requesting a parking space. Later, this was provided as the quote below reveals:

*"Users started complaining when construction began when the contractor was clearing the road to pave the way for the road expansion. When the contractor started installing curb stones, the complaints escalated. The number of users who were not happy with the curb stones and the displaced parking spaces increased. The interaction between the contractor, consultants, and the users was inevitable. This led to the formal filing of an appeal to the client, Kinondoni Municipal Council."*³²

According to the respondents, the process was not a straightforward (formal) procedure, but it worked. The road agency approved requests for parking spaces after scrutinizing and conducting an inspection, but some requests were denied while others were granted. Figure 47 shows the individual and collective actions of users along Shekilango commercial street.

³² Interview with the local government leader of Sinza 'A' in 2022

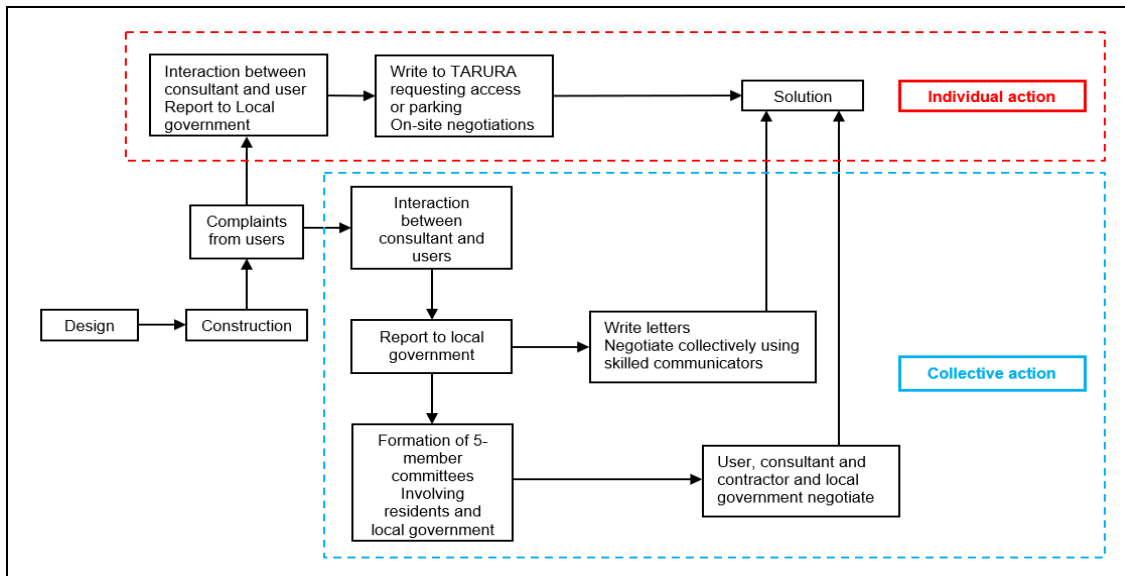


Figure 47: Negotiations involving individual and collective actions by users (source: author, 2022).

Respondents associated with the popular restaurant “Golden Fork” along Shekilango also revealed that the restaurant owner had to write a letter to TANROADS to request parking space for the restaurant, and it was provided:

*“When they started construction in 2020, our boss noted that the parking space was not considered in the road expansion. He immediately wrote a complaint to the road agency, and the contractor provided the parking space. Even though it was provided, it is not adequate as customers of the nearby fast food, which has many customers, also park here when their parking space is full.”*³³

If key users were involved, these challenges would have been considered. It also suggests that participatory design was not deployed at the stages of conception, design, and implementation. Figure 48 shows parking spaces that TARURA provided after filing complaints.

³³ Interview with the Manager; Golden fork restaurant 24th November 2020.

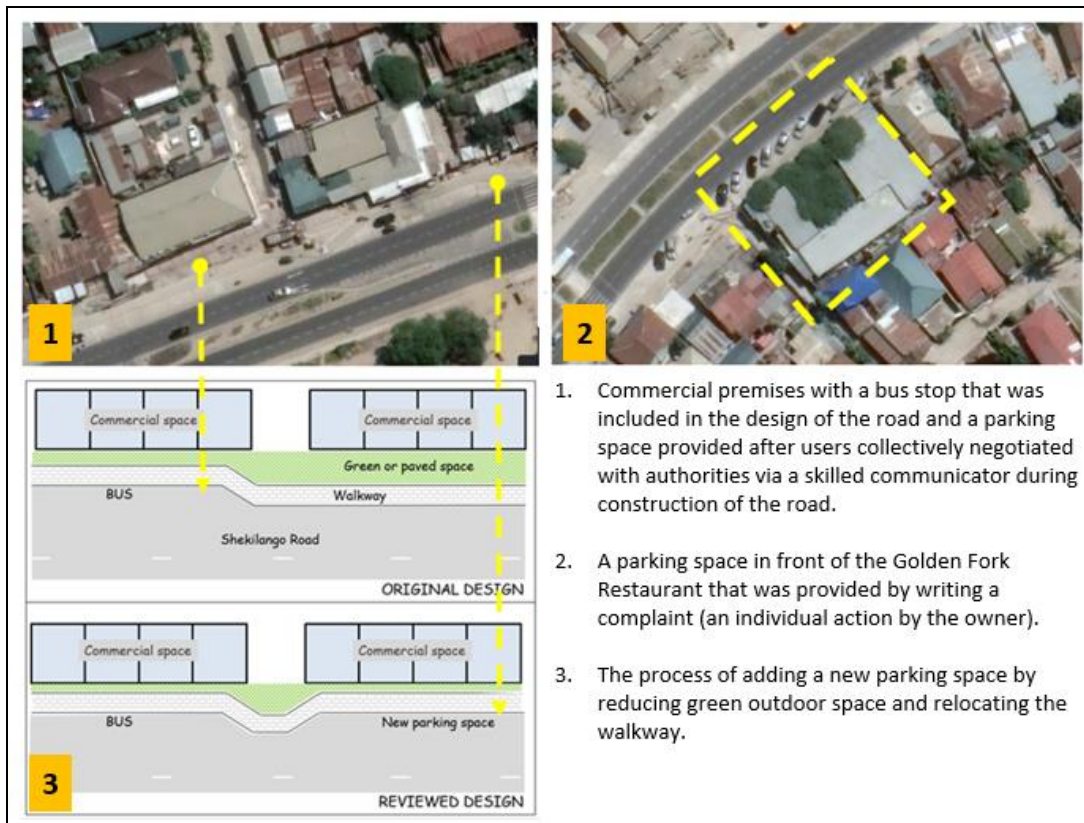


Figure 48: Parking spaces provided through actors' self-organized negotiations with authorities.³⁴

Negotiations initiated by residents made it possible to reposition the walkway and reduce the public space to create space for parking. According to the representative of the consultant of the project, HP – Gauff, in association with NIMETA Consult (T) LTD, the project had to be flexible as the consultants (an engineering firm) didn't consider many dimensions in the project, such as provision of vehicular access and parking space in such a prime commercial street. Complaints by users were triggered by their immediate needs (parking space) and are a result of collective action through their social networks.

According to the consultant, there was little involvement of non-professional actors. The representative, who happens to be an engineer, reported that architects, sociologists, and residents were not involved in the approval process before the drawings were submitted. The upgrading has boldly defined pedestrian walkways using curb stones. These physical elements are essential for safety, but they block vehicular access to the adjacent shops. This blockage has been viewed by the landlords and tenants of commercial spaces along the road as an unnecessary intervention, as it disrupted the self-organized, organic parking system that existed before the upgrade. According to the Ward leader, residents were informed of the road upgrading project in 8 (eight) community meetings. Owners and tenants were informed through public announcements made using speakers mounted on vehicles that moved along the roads. DMDP, social experts of the contractor, and Municipal Council representatives attended the meetings. The meetings could have incorporated participatory design sessions with people who would be affected, including key beneficiaries, but this was not the case.

³⁴ (Source: earth.google.com, 2021, modified by author).

According to the local executive officers, the tenants and landlords were not adequately engaged, i.e., neither were shown the drawings nor given the opportunity to understand the details of the upgrade. The quote below shows the nature of the information that was conveyed to the residents:

"I attended a meeting at the Sinza ward office during the road expansion. The authorities explained that if any problems such as cracks occurred during the construction of the road, TARURA would fix them at their own cost". ³⁵

According to the PIU social expert, even the lines of communication between the client (Kinondoni Municipal Council) and key stakeholders (TANESCO and DAWASA) were not clear from the start. There were interruptions at various moments, including MLHSD issuing stop orders and the upgrading exercise.³⁶ This suggests a lack of coordination among authorities responsible for urban infrastructure. Nevertheless, consultants and the road agencies worked with considerable flexibility to ensure the needs of the owners and stakeholders were met, on the one hand, and to adjust the road expansion to the existing situation on the other. The consultant addressed queries related to blocked access by interacting with tenants, landlords, and the contractors at the particular locations. Upon approval by the client, drawings were adjusted and changes were introduced. This is what is referred to as a "participatory result" (Bratteteig et al., 2014), which is obtained without formal participatory processes and is typical of urban development processes in sub-Saharan Africa. While the consultants and road agencies strived to accommodate the needs of the users, a more conscious setup of a participatory design process could have more carefully ensured the inclusion of the values, needs, and requirements of key users.

Self-organized processes influenced the participatory design interactions during the construction of the road. This contribution by users responds to research question three: collective and individual actions opened doors for participatory design in spatial development, enabling them to stand up against the top-down, state-influenced design of the road. These self-organized processes also safeguard livelihoods as parking space and access to premises (claimed by residents) are critical physical assets. Socioeconomic – networks (the social asset) which they built over time are threatened if they have to vacate the area or if customers/clients/residents cannot access their business with ease. This occurs when state development plans fail to address residents' daily livelihood needs or when individual actions put pressure on collective resources. Then, self-organization is unbalanced.

The nature of participation, which results from key actors working independently, poses challenges with respect to spatial development. Residents develop their spaces in isolation, i.e., without considering the needs of other users. At the same time, authorities make spatial development proposals without considering the existing built environment created by residents. Additionally, authorities do not fully involve citizens in decision-making on matters that are likely to affect the spaces where citizens conduct their livelihood activities. The latter top-down approach by authorities and the informal land development processes are a result of failures in planning systems and practices, as well as historical traits in urban development that have made informality inevitable (Nnkya, 2008).

³⁵ Interview response from a business owner near the Shekilango and Bagamoyo road junction in 2022.

³⁶ Interview responses from the project consultant, Sinza ward leader and PIU social expert.

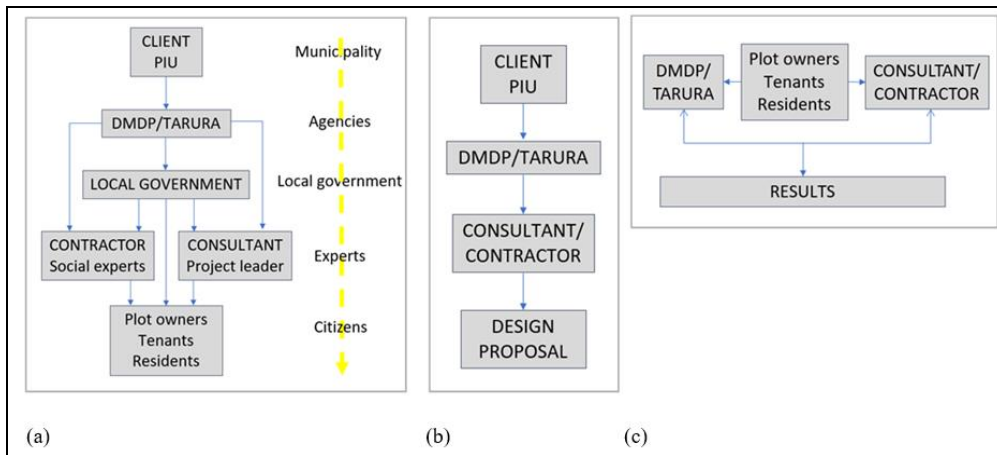


Figure 49: Actor interactions during (a) Transfer of information, (b) Design of and (c) Construction of Shekilango Road (source: author, 2022).

From Figure 49, information flows from the municipal council to residents through the road agencies (TANROADS and TARURA) and the local government (WARD and STREET levels). Also, experts from the contractor and consultants participate in such meetings. In this process, residents are primarily recipients of inadequate information about the upcoming project. According to owners of a clothing store and an online business/restaurant/store, there is no formal organization that constitutes a forum for the tenants.³⁷ However, they may meet informally or have phone conversations to discuss matters of mutual concern, such as opportunities and what is at stake regarding the commercial premises they use. Residents engage skilled communicators to speak on their behalf. The following quote shows how users selected one person to handle negotiations with authorities.

"After I realized that we wouldn't have enough parking space, I talked over the phone with my immediate neighbors and a friend who has a boutique in the adjacent building. We met in my shop and discussed and agreed that one of us, who has good contacts with the authorities, handle the matter on our behalf".³⁸

During the design stage, the municipality, agencies, and the consultant/contractor were involved in co-producing design proposals. During construction, residents (through local community-formed committees) interacted with the consultant and the contractor (after obtaining approval from road agencies) to address conflicts that arose, including those arising from the non-involvement of residents. After the road expansion, conflict mediation, however, took a different shape, in which residents met with local government officials (at the Street level) and identified their location and problem to obtain written approval. The road agency (TARURA) only accepted and attended residents who received this approval. This explains the nature of actors' interaction in spatial development, particularly concerning road developments, and responds to Research Question One.

After the construction and handover of the road to the client (Kinondoni Municipality), the nature of the interaction changed. The local government still played an organizational role, but during this period, they inspected the requests from landlords and tenants. If satisfied that their request was genuine, they signed and referred the property owners to TARURA, who would scrutinize the request and accordingly approve or disapprove it.

³⁷ Interview with two respondents (tenants) near Institute of Social Work on 28th and 29th November 2020

³⁸ Interview with two respondents (tenants) near Institute of Social Work on 28th and 29th November 2020

According to the Street/Mtaa executive officers, two public meetings are to be conducted each month. The main agendas are safety, security, and cleanliness. Such meetings could serve as a more effective platform for participatory design sessions. Due to limited funds, the meetings are seldom held. This makes it challenging to conduct meaningful participatory design engagements in such a context and calls for rethinking how authorities and professionals can effectively engage residents in decision-making.

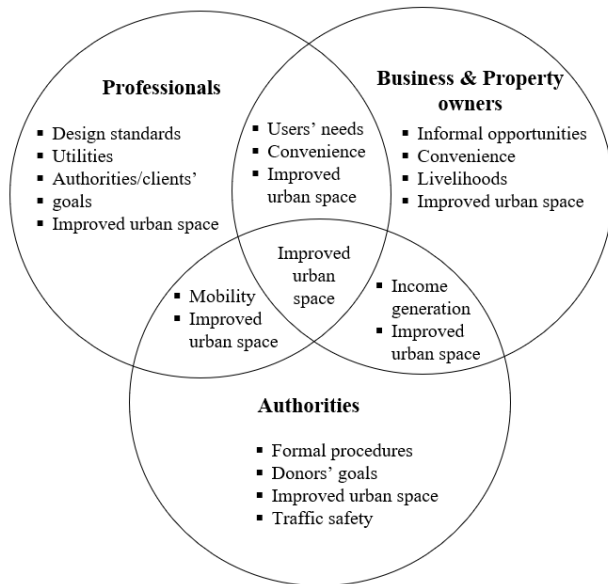


Figure 50: Actors' individual and common interests (source; author, 2024).

In Figure 50, while addressing the project's needs, professionals act in the interest of both authorities and users since they interact with both groups in urban infrastructure projects. They addressed users' needs per the requirements set by the authorities. The common interests of users and authorities, being mobility and improved urban space, were not adequately addressed in the top-down road improvement and expansion project, leaving gaps that led to complaints and negotiations. However, the three key actors —authorities, users, and professionals — share one common interest, which is the need for improved urban spaces. Bringing these actors together to inspire each other and discuss what is at stake for each may lead to more clearly defined common interests, benefiting all beneficiaries.

According to Arnstein's ladder of participation, the nature of the involvement in the upgrading of the case study road (Shekilango road) depicts a combination of "*tokenism*" and "*non-participation*." The first two rungs of non-participation – (1) manipulation and (2) therapy are observed in the design of the road expansion, which was already decided in which drawings were prepared and approved without citizens' involvement. It is also evident from the content of the information conveyed during meetings held at local government offices, which included the client, consultants, local government leaders, and residents, that drawings were not shared with the residents. Educating residents about issues such as rectifying cracks and contagious diseases while leaving out important information is a form of manipulation and therapy. The three rungs of tokenism that follow – (3) informing, (4) consultation, and (5) placation are observed when citizens were informed of the road works through public announcements and later in neighborhood meetings. During implementation, self-organization led to the formation of committees that comprised residents, local government leaders, and consultants to seek solutions. The management of two hotels, quoted below, wrote letters requesting access from Shekilango, which was granted and led to

the removal of curb stones and demolition of the median. This led to changes as requested by the hotel management and is evidence that neither a thorough analysis of existing conditions (everyday realities), nor substantive participation was conducted.

"We understand that this road is being built to reduce traffic (as a highway), but it should be understood that most of the users of this road end up in Sinza, which means that they will need ease in getting to their destinations."³⁹

"We have noticed that the curb stones at Muungano Street have blocked access, and we are afraid of losing business, which will result in failing to pay taxes."⁴⁰

"Consultants should come with drawings in meetings like this so that residents become aware of what the street will look like when construction is completed to avoid disturbances such as blockage of access to commercial premises and inadequacy of parking spaces."⁴¹

The development of commercial spaces demonstrates that citizens could organize themselves, act, and make decisions to develop the space as they deemed appropriate to meet their needs. Still, they did not have the mandate to do so. In fact, some of the decisions (such as the front setback) were made against formal regulations and procedures. Most importantly, the design adopted to expand Shekilango Road was done without the involvement of citizens. It was conducted in a non-participatory manner.

The fact that citizens negotiated with authorities and collaborated with other stakeholders during the road construction process to address their needs demonstrates that there are opportunities and possibilities for participatory design informed by the substantive engagement of key actors, including users of the spaces. Contrary to what is considered an interaction between governance and a self-organized process, where professionals interact with people who are not trained in design (Wang et al., 2002), this context calls for an approach that acknowledges users as the primary generators of space. In this case, it is vital to understand how and when each actor can be involved to identify issues of interest that may influence the design of the street.

6.7 Qualities of Self-Organized Commercial Street Spaces

This section discusses the qualities of self-organized commercial streets in two main aspects (Figure 51). First, it describes the physical attributes that are related to the appearance and physical elements of commercial street spaces. Second, it addresses qualities that shape and influence the design of the spaces. They, for instance, relate to how people use and behave in space.

i) Physical characteristics

Physical characteristics include the nature of outdoor spaces and amenities, such as the veranda, public and private outdoor spaces, and parking spaces. It also encompasses the physical character of the street, including the diversity of functions, signage characteristics, and richness in terms of display qualities and appearance. As commercial streets comprise spaces used by both human and non-human actors, the section also discusses the tensions among actors and the negotiations and compromises made so that the spaces created become functional for all users.

³⁹ A letter written by the management of Lantana hotel to TARURA to request for access from Shekilango road (Appendix 2A).

⁴⁰ A letter written by the management of Azania hotel to the Street Executive Chairman to request for access from Shekilango road (Appendix 2B).

⁴¹ Minutes of a meeting involving residents, local government leaders and TANROADS experts held on 09.08.2020 (Appendix 2C).

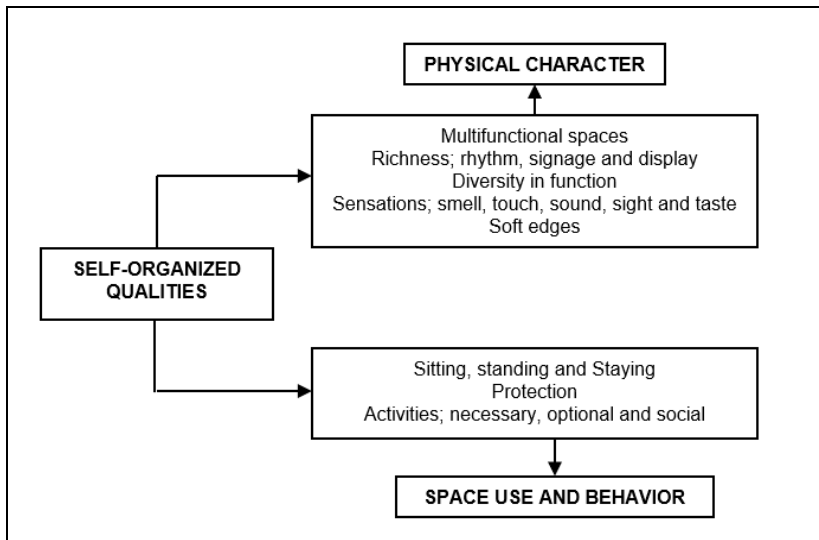


Figure 51: Qualities of commercial street spaces (source: author, 2022).

ii) Space use and behavior

Space use and behavior are discussed in relation to how resulting street spaces foster necessary, optional, and social activities. To understand how these qualities take shape, the section also discusses how actors, through their networks and intuition, create fairly rich urban streets with most qualities that, in the formal sense, are generally designed by professionals. Lastly, based on residents' intuition and how users (customers and residents) behave in space, the qualities for sitting, standing, staying, and protection are explored. These qualities are related to space use and behavior and make up the first category of self-organized commercial street qualities.

6.7.1 Qualities for Sitting, Staying, Standing, and Fostering Activities

Extensive covered spaces enhance the quality of standing and staying but also address the need for protection, particularly from rain and the intense tropical sun heat. Additionally, the verandas serve a variety of purposes and accommodate different users. For instance, Figure 52 shows students spontaneously drawn to the veranda, where they socialize. The two girls, far right, sit on a step next to a flower. Further, shoppers are observed awaiting stationery services (necessary activity), standing to take a break and a good view (optional activity), and socializing in a group (social activity); others sit on a concrete step underneath a veranda outside a pharmacy and mobile money outlet facilities near the Institute of Social Work along Shekilango road. Another example of such activities is observed in Figure 53, where a woman at a key duplication shop and an older man outside a convenience store are depicted. Spaces that offer necessary services that take a long time and services that provide opportunities for sitting and taking a short break before continuing with other activities require covered spaces to accommodate such activities, given the intense heat and occasional rain.



Figure 52: Social activities (Source: Author, fieldwork 2020).



Figure 53: Optional activities (source; author, fieldwork 2020).

At the level of the plot, spaces that have qualities for accommodating necessary and optional activities were observed. Socializing depends on how familiar and friendly the business operators are to each other. The friendlier they are, the more possibility there is for social activities. This also depends on the presence of different operators. As simple as they appear, such spaces depict abundance in that one can take a pose, order a drink, watch, and enjoy various activities along the street. Based on the detailed study of the Shekilango commercial street, this finding may suggest that qualities of self-organized commercial streets reflect societal “spatial practices” as advocated by Lefebvre (1991) in creating and using space.

Self-organized space creation is also observed in how business operators transform and use the veranda space. In a respondent’s convenient shop (Figure 54(b)), the veranda is extended by introducing additional covered space so that there is more display and storage space in front of the shop. Spaces for functions such as clothing stores use veranda space for circulation and display. For the convenience shop, the veranda serves as both a display area and a storage space. Adjoining business operators demarcate

space using elements such as short, mild steel partitions to separate one's veranda space from that of an adjacent shop.

Some operators provide chairs for customers on the veranda, which can also serve as an outdoor seating area for the shopkeepers. Some verandas are equipped with a fridge for customers to grab a cold drink and quench their thirst. Such spaces are also used to display other items, such as water bottles. The presence of furniture in the space offers the possibility of optional activities where customers can sit down for a drink and/or socialize. This finding responds to Research Question 2, which sought to probe the qualities of self-organized commercial streets. The qualities are related to the multiplicity of use as well as how the veranda supports optional and social activities. The fluidity in design and multiple use of spaces achieved by non-professionals may inform future design standards of the frontage of commercial streets.



54 (a)



54 (b)



54 (c)



54 (d)



54 (e)

Figure 54: Multiple uses of the veranda (source: author, fieldwork 2019).



55 (a)



55 (b)



55 (c)

Figure 55: (a) A cereal shop's interior and veranda layouts. (b) A veranda's multiple functions: display and weighing, and (c) Multiple veranda functions: socialization, storage, selling, and weighing (source: author, fieldwork 2019).

In Figure 55, the business operator's seat is located within the space that has shelves and storage of sacks of grains. Temporal activities are also accommodated, such as a customer who is spotted choosing clothes from a petty trader. In the same space, two men conduct business. The design of private outdoor space and right-of-way may be a result of late involvement by actors. According to business owners interviewed, the provision of unprovided parking spaces that necessitated negotiations took away important outdoor space during construction. Improvisations led to encroachment of walkways that were provided by authorities.⁴²

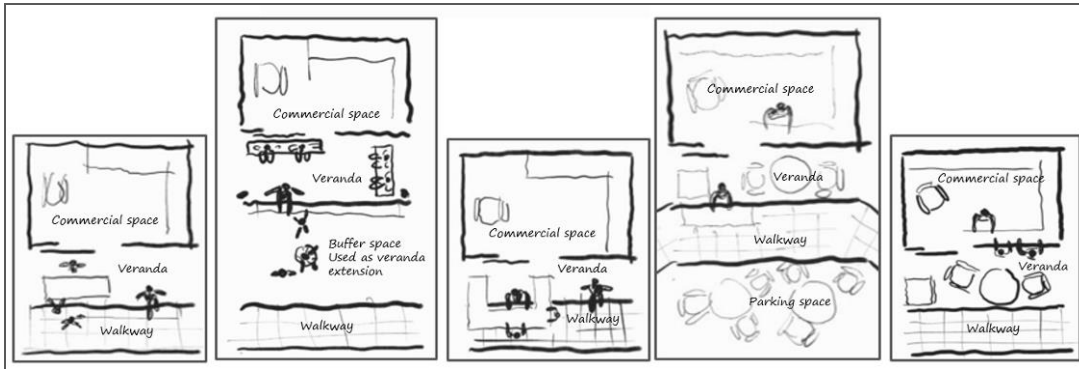


Figure 56 (1-5): Typical space usage (source: author, 2021).

From Figure 56 (left to right) 1: Narrow veranda space merged with pedestrian space, 2: Veranda with benches and wide outdoor (buffer) space and pedestrian zone well defined, 3: Pedestrian zone completely encroached upon, 4: Pedestrian and parking zones encroached upon to create an outdoor seating area and; 5: A veranda that acts as both a utility space and a space for optional and social activities.

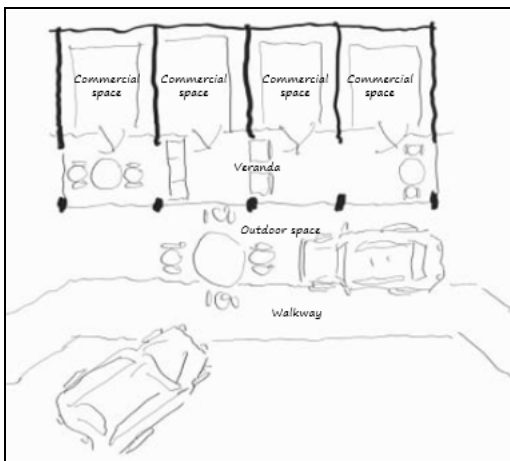


Figure 57: (Left to right): An outdoor space and walkway encroached upon to accommodate parking space (source: author, 2021).

The veranda is a key element in commercial streets as it serves multiple uses. The design of Shekilango Road, which lacked outdoor public space, led to encroachment on pedestrian space through the informal extension of verandas and the introduction of parking spaces (Figure 57). The parking space, which is often viewed as a public space, is treated as a private space by business operators since it serves as a vital transitional area for entry and exit to and from commercial spaces. This has a significant impact on

⁴² Interview with two respondents on 28th and 29th November 2020 and the manager, Golden fork restaurant on 24th November, 2020.

public use, as this public space becomes an extension of private indoor space.

A large percentage of the spaces along the commercial streets are informally created. This is contrary to Lefebvre's (1991) theory, which argues that representational spaces are the dominant space in cities. This raises a debate regarding the production of space in most cities of sub-Saharan African countries. The third level of the theory, representations of space (lived space), is dominant since users can design and create space autonomously. The fact that self-organized streets possess qualities for sitting, staying, and protection, as well as richness in display features, and cater to necessary, optional, and social activities, manifests tacit knowledge applied to shape the space. These qualities depict livable and visually appealing streets, thereby offering insights into Research Question Three, which aimed to explore how resident-created qualities can inform the future planning and design of commercial streets. The literature on the attributes of desirable commercial streets also serves as inspiration to the planning and design field, as it reflects attributes that are, in an actual sense, usually designed and planned by professionals (Gehl, 2006; Jacobs, 1974).

6.7.2 Richness of Commercial Street Spaces and Tacit Knowledge Employed

The quality of commercial space and character of the commercial streetscape can be observed in the visual appearance, including façades and the sizes of spaces, which enable diversity in functions over short periods. Sensory stimuli, such as smells, sounds, and touch, were experienced in commercial spaces that include food vending areas and restaurants, as well as audio and video outlets with different textures.

There is also a richness in the spaces, particularly in terms of rhythm, openings, columns, display details, shop window designs, signs, and decorations. In these spaces, urban design concepts for commercial streets have been intuitively developed and refined through the evolution of commercial spaces. There are decorations, textures, and colors of different kinds on the veranda. Such decorations enhance the space's aesthetics. Clear and complete glass displays increase marketing opportunities and attract people to the products or services being sold within the space. These findings address research question three, suggesting that the future design of commercial streets should integrate users' rich design considerations. This approach would enable professionals to make decisions in areas such as walkway provision, public spaces, green areas, and parking spaces that amplify rather than diminish the needs and preferences of users.

"I sell clothes and shoes, and for my business to be seen, I must have big display windows. For that matter, the two most important qualities of a commercial space are parking space for my customers and the direction of the sun. When display products are exposed to the sun, as is the case on the other side of the road, they get damaged, and that is a loss."⁴³

Residents' tacit knowledge enables them to generate their own spaces or appropriate existing spaces; they may also be informed by the knowledge they gain from social media or the design of similar spaces created in other streets or areas. They may also gather information from mostly Pinterest, Instagram, and Facebook. In turn, they use this knowledge to guide them when they engage graphic or interior designers and artisans to bring their ideas to life. The design of textures, display details, rhythm, colors, and interior elements may also be informed by ideas seen in another street or area. The storefronts

⁴³ An interview response from a business owner near Kumekucha area in 2023.

(Figure 58) along Shekilango Road vary in size and design depending on the type of business accommodated. Some shops have transparent displays, while others are opaque and feature signs indicating that privacy or security is essential. One can see through the display windows of clothing, cosmetics, and luxury products, but not through some of the barber shops or mobile money outlets.



58(a)



58(b)



58(c)



58(d)



58(e)



58(f)

Figure 58: Visual qualities of Shekilango street depicting: (a) A hipped roof design with triple clear display windows, black façade and decorative fins on the veranda, (b) and (c): Hipped roof design with triple clear display windows, visible signage, and symmetrical design, (d): Visible signage and clear display design, (e): A gable roof design with a colorful and symmetrical façade with large clear display windows and (f): A tall building with a concealed roof, triple clear display windows, a symmetrical pink veranda with aluminum composite finish (source: author, fieldwork 2019).

The visual qualities along Shekilango Road portray rhythmic patterns of openings (doors and windows) and columns. Decorations are in the form of materials, colors, textures, and signage. One can also note that window designs are kept transparent using clear glass and frameless doors. The display is also emphasized through the use of mannequins placed on verandas. Signs contribute to the richness of the streetscape. Signs not only announce the business they are also decorative elements that welcome customers. They significantly contribute to the visual appearance of Shekilango Road. With the scarce resources they have, users achieve such designs by creatively extending, converting, or filling in the already-built spaces (Iossifova, 2013). Based on the analysis, signs are classified by size, position, aesthetics, material, creativity, location, and technology. The variations enable the creation of a rich visual character. The types and features of signage that were observed include:

- Decorated/creative
- Electric
- Overhead or on the surface
- Electrical
- Large or small
- Hand-written/drawn
- Glued to glass
- Screwed to or mounted on wall/slab

- As a wall and
- Nailed to fascia board.

The informal generation of commercial street spaces introduces qualities that are experienced physically through being in the spaces and visually through observing them as elements of the streetscape. Richness is achieved through the appearance of display windows, billboards, immediate connected functions and spaces, and outdoor spaces. Signage is one of the elements that are designed to attract customers to a business.



59(a)

59(b)

Figure 59: (a) Images of the different signage types along the Shekilango commercial street and; (b) Electronic signage (source: author, fieldwork 2019).

In Figure 59, except for the image on the right, all the other pictures were taken from across Shekilango Road. What is striking here is that all the signs are visible, meaning that people in a vehicle traveling at a low speed, i.e., about 40 km/h, can read and identify the types of major items available in the shop. Theorists such as Gehl have termed this 'speed architecture' in which a sign is provided based on the assumption of the speed of the vehicles moving on the road (Gehl et al., 2006; Lee et al., 2014). This is informally and intuitively achieved by residents and is evidence of the rich qualities that non-professionals generate. This finding also offers insights into Research Question 2, which aimed to identify the qualities of self-organized commercial streets. Comparatively, the signage resulting from tacit knowledge is legible and visually appealing, indicating that tacit knowledge is a significant contribution to the design of urban commercial streets. In this sense, it also responds to research question three, as such contributions can be used as tools for guiding professionals when designing future commercial streets to integrate signage requirements, such as the respective vehicular speed along the road or street, signage types, location, design, and position.

In an empirical study conducted in Dar es Salaam, several informal businesses operating alongside the main businesses (in permanent spaces) were observed. The main businesses included recreational spaces (bars, restaurants, betting booths, etc.), butcheries, pharmacies, stationers, salons, hardware stores, massage parlors, and boutiques in both major and minor roads. Large mixed-use apartment complexes, malls, hotels, factories, schools, health facilities and fewer smaller or retail commercial spaces were

observed along major highways. The use of space varies depending on the width of the road. This suggests that authorities need to engage with residents when providing urban space.

6.7.3 Self-Organized Diversity; A Catalyst for Interdependencies

Tanzania Revenue Authority (TRA) categorizes businesses into five types and related typologies. There are various categories, including general merchandising, rotary, amusement, and games; processing and manufacturing; selling spare parts; and general trading. Shekilango Road accommodates a wide range of land-use activities and functions, as discussed earlier. The mixed functions are not only observed in land use but also in the choices offered to customers due to the existence of shops that may have similar products, such as clothing, but with different styles depending on sex, ethnicity, and age. This is often observed in clothing stores. The mix also makes it possible to have other functions, such as photo booths, car accessories stores, salons and barber shops, financial services, and food outlets. This enhances the social values of the street (through social services) that, in turn, sustains businesses to make the street and neighborhood very vibrant areas. This diversity is an essential attribute of commercial streets (Gehl et al., 2006; Jacobs, 1974) and responds to the second research objective, as self-organized practices contribute to livelihoods through the interdependencies fostered by the diversity in functions. Diversity also contributes to the attractiveness and vibrancy of an organization.

According to the respondents, particularly residents and users of the Shekilango commercial street, they access food from vendors within the streets. Such spaces exist to serve these users and also provide income to the food providers. According to a focus group discussion (FGD) with 'boda boda' riders, this group strategically settles near health facilities, mini supermarkets, restaurants, and bars. It builds connections with customers to support their livelihoods. The variety of functions and activities along the street makes it possible for them to attract random customers, such as pedestrians and commuters strolling along the road. Such livelihood opportunities attract these informal business operators.

According to the street/MTAA executive officers and the project consultant, such stations were not accommodated in the upgrade. Such a finding suggests that professionals and authorities responsible for urban spaces often overlook crucial information when upgrading urban environments. In this case, if such critical players were actively involved, it could guide the provision of public transport stations, making the street inclusive and responsive to the everyday needs of the users.

Some shops are concentrated in specific locations, while others, such as mobile money outlets and clothing stores, are found in varying areas along the street. As expected, stationery and photocopy points are mainly concentrated near an academic/training institution.

Within the assortment of clothing stores of different genres, food points, a photo studio, financial services, a convenience shop, and transportation logistics provide a mixture of functions, as described by Gehl (2016) as diversity (Figure 60). Such mixed uses are also composed of cell-like commercial spaces that are often interconnected and more user-friendly than larger commercial spaces. Smaller mixed vending spaces stimulate the senses as one navigates the space along the street, offering different spectacles (Ibid). The concentration of such commercial activities lends streets like Shekilango prominence due to their strong commercial image, which is evident even in the urban roads that link them to the immediate neighborhoods. This creates what Lynch (1960) refers to as "linear districts" and responds to research question number three, particularly regarding how actions and decisions by low-key

actors can contribute to the planning and design of cities in Africa. In this case, they contribute to the character of streets and how they can be defined based on the dominant function they perform.



Figure 60: sections of the Shekilango road showing functions created through intuition that foster livelihoods (source: author, fieldwork 2019).

The transformation of the Shekilango Road from a residential street to a commercial street has achieved what Gehl (2010) has termed 'soft edges' of streets that are comprised of attractive spaces with people and rich display of functions (Lee et al., 2014). This street character is recommended over 'hard edges,' which are defined by solid boundary fences. Due to the absence of people and things to view, these fences become dull and appear less safe for pedestrians (Gehl, 2010). In most sub-Saharan African cities, this is happening along a large percentage of the movement spines; all 13 settlements analyzed had this pattern of spatial development. It is a pattern that needs to be thoroughly examined and understood to inform functional street design in the Tanzanian context. This finding also offers insights into the contributions of low-key actors in the planning and design of streets in urban Africa. In that sense, it responds to research question number three.

It was further observed that adjoining commercial functions may pose challenges or offer opportunities to one another. A bar and a car wash can coexist and benefit one another, maintaining a symbiotic relationship. A clothing store and a welding workshop, on the other hand, can have tensions. These tensions were observed during an interview with a business owner who operates a salon next to a workshop for fabricating aluminum window and door units. This led to the creation of demarcations in the form of physical barriers to minimize disputes. Even though conflicting relationships may arise over time, operators learn to coexist through compromise, negotiation, or by creating physical obstacles in space. This complements Ingold's (2015) idea of lines in that human interactions cannot always be positive; tensions also form an important part of human connections and interactions. In fact, in the Tanzanian context, tensions may play a role in shaping the space. It also suggests that the lived space (representations of space) is a negotiated space and will continue to evolve through such interactions (Okello, 2013).

6.8 Understanding the Link Between the Self-Organized Street and Livelihoods

The understanding of livelihoods in urban areas that have not been sufficiently explored (Farrington et al., 2002), is observed in the interwoven nature of the physical and social elements in commercial streets that are associated with pursuits for livelihoods. The SL framework has revealed the physical livelihood asset (the veranda and parking space), and the social livelihood asset (social networks and interdependencies). The lived space consists of these two assets that can inspire professionals and authorities who plan and design cities.

6.8.1 The Physical Livelihood Assets of Commercial Streets: Linking Self-Organized Spaces with Livelihoods

One of the most important findings in this research is that informally generated commercial spaces exhibit repetitive elements, albeit with variations. One of these elements is the veranda, a front element used for circulation, socialization, storage, display, and more. The other is the parking space, which is a crucial amenity for commercial spaces, as it allows some customers/drivers to make a stop, shop, and continue their journey in private vehicles. It is also useful for business owners who also use private vehicles and offers opportunities for multiple functions during different times of the day.

6.8.1.1 The Veranda; An Informally Created Multi-Functional Outdoor Amenity

Along the entire road, the veranda appeared as a frontage element of a significant percentage of commercial space. It is thus a crucial connecting element in describing the lively character of the commercial street. Based on the analysis, the veranda is classified by size and scale, type based on usage, colour, material, and permanence/temporariness. Table 21 shows the main types and their variants.

Table 21: Veranda Types and Variants

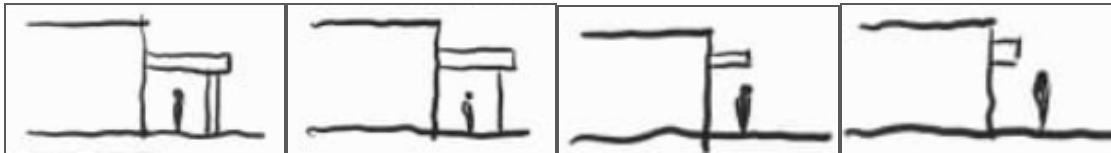
S/N	Type	Variant
1	Design and usage	• Permanent or temporary • Suspended or supported • Segmented or continuous • Shared or private • Extended, added-onto or embedded
3	Size and position	• Wide, narrow, symbolic • High or low ceiling • Elevated, depressed or low
4	Material and treatment	• Concrete, metal sheets or plastic • Colored or textured • Smooth or sharp edges
5	Shape	• Square/rectangular/circular

(Source: author, 2022).

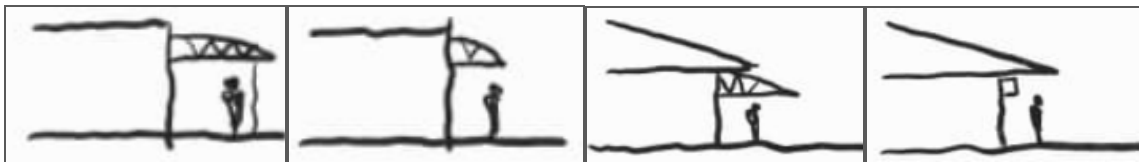
The veranda is an element that can be both visually and physically experienced. The materials most commonly used are ceramic and porcelain tiles for the floor, painted masonry walls, softwood cladding, and gypsum ceilings. The veranda's structural material is either a concrete slab, steel and metal sheets, or canvas and steel. Aluminium and glass casement swing doors and fixed windows are the most common openings as they achieve visual continuity for passers-by and people in moving vehicles.

As noted in most areas along the street, verandas are important spaces used for interaction, socializing, and meetings. Observations have revealed how users, including business operators and short-stay

customers, spontaneously use such spaces. Additionally, steps, elevated concrete slabs, or floors are used as seats when there is no furniture to attract or support conversation, socializing, and awaiting service. Furniture is sometimes spontaneously provided and used. This may inform future planning and design of streets to support social activities and public use as vital activities along commercial streets. The activities may also inspire professionals to view streets beyond their use as movement spines (Gehl et al., 2006; UN Habitat, 2013). This responds to Research Question Three on how self-organized qualities can inspire and inform the future planning and design of commercial streets. The varying types of verandas are presented in Figure 61. Figure 62 illustrates the various uses of the veranda, including parking, display, socializing, and conducting business transactions.



a. Concrete supported and wide, suspended, and symbolic



b. Wide supported, narrow suspended extended, symbolic and imbedded metal roof verandas

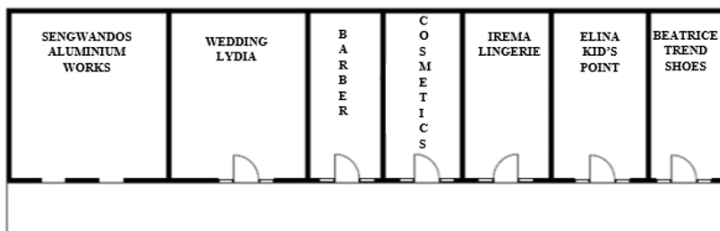


c. A canvas roof added onto a metal roof.

Figure 61 (a), (b), and (c): Section-elevation sketches of variants of the veranda observed along Shekilango Road (source: author, 2021).



Figure 62: Images of veranda types and their uses (source: author, fieldwork 2020).



(a)



(b)

Figure 63: (a) Veranda and interior space before space appropriation and 61 (b) Appropriation of the veranda and interior spaces (source: author, 2019).

From Figure 63, space appropriation leads to the demarcation of space through the use of elements such as balustrades or stalls, which in turn physically mark ownership and separate the commercial spaces. This suggests that the veranda space is contested. In Figure 64, the veranda is depicted as a recreational outdoor space where users can gather for conversation or simply sit and rest.



Figure 64: (Left): Men relaxing outside a spare parts shop under a veranda shade, and (right): A business operator rests under a tree while waiting for customers (source: author, fieldwork 2019).



Figure 65: Men, women, and children resting and socializing (source: author, fieldwork 2019).

In Figure 65 (left), men sit outside a barber shop while laundry dries out in the same space. (Right) women, men, and children socializing under a veranda and tree shade. The existence of the veranda, which faces the road and is supported by a canopy or trees, creates a sense of security for passers-by and other users, allowing them to sit and stay. The presence of people under the verandas supports Gehl's (1987) idea of a sense of protection for passers-by. This is a positive contribution to the built environment that relates to Research Question 2, which aimed to understand the qualities of self-organized commercial streets.

The social activities observed, such as sitting, standing, and playing games, suggest that linkages between indoor and outdoor public spaces are imperative when designing commercial streets. The spontaneity and fluidity have commensurate equal importance. Observations have also shown that the veranda serves as a meeting point for business owners, where they spontaneously interact and discuss various matters.



Figure 66: Optional and social activities (source: author, fieldwork 2019).

In Figure 66 (a), a man watches two men on a bench playing a board game while two other men sit on crates of soda talking. In Figure 66 (b), a motorcyclist awaits customers outside a jewelry store, and women socialize outside clothing stores while sitting on concrete steps and standing. This is an example of the spatial quality of the veranda, which supports various activities. This potential, however, is not enjoyed in some areas that lack sufficient front space to accommodate verandas. Given the rapid construction of new high- and medium-rise mixed buildings, such spaces are disappearing, and new dull ones emerge.

6.8.1.2 The Parking Space: an Outdoor Amenity Sustaining Businesses

Shekilango Road is such that self-organised parking spaces are located right next to the road and vary in size and type of surface finish. For instance, some of the parking spaces are paved, while others have soft landscaping. Immediately next to the parking spaces are verandas, which, as noted, have multiple uses. Users improvise or design spaces to attract customers and create a lively work environment. Interventions in parking spaces that appear temporary, permanent, or spontaneous dominate the street and create a convenient environment for driving customers to stop by for shopping. This allows for the accommodation of both motorized and non-motorized traffic, with the latter moving under overhead-covered verandas.

From the analysis, parking spaces are categorized based on whether they are provided or improvised, their size, surface finish, organization, and frequency of use. The types relevant to this matter include designated, designed, spontaneous, shared between different motor types, paved, earth surface, multi-functional, congested, spacious, temporary, and long-term.

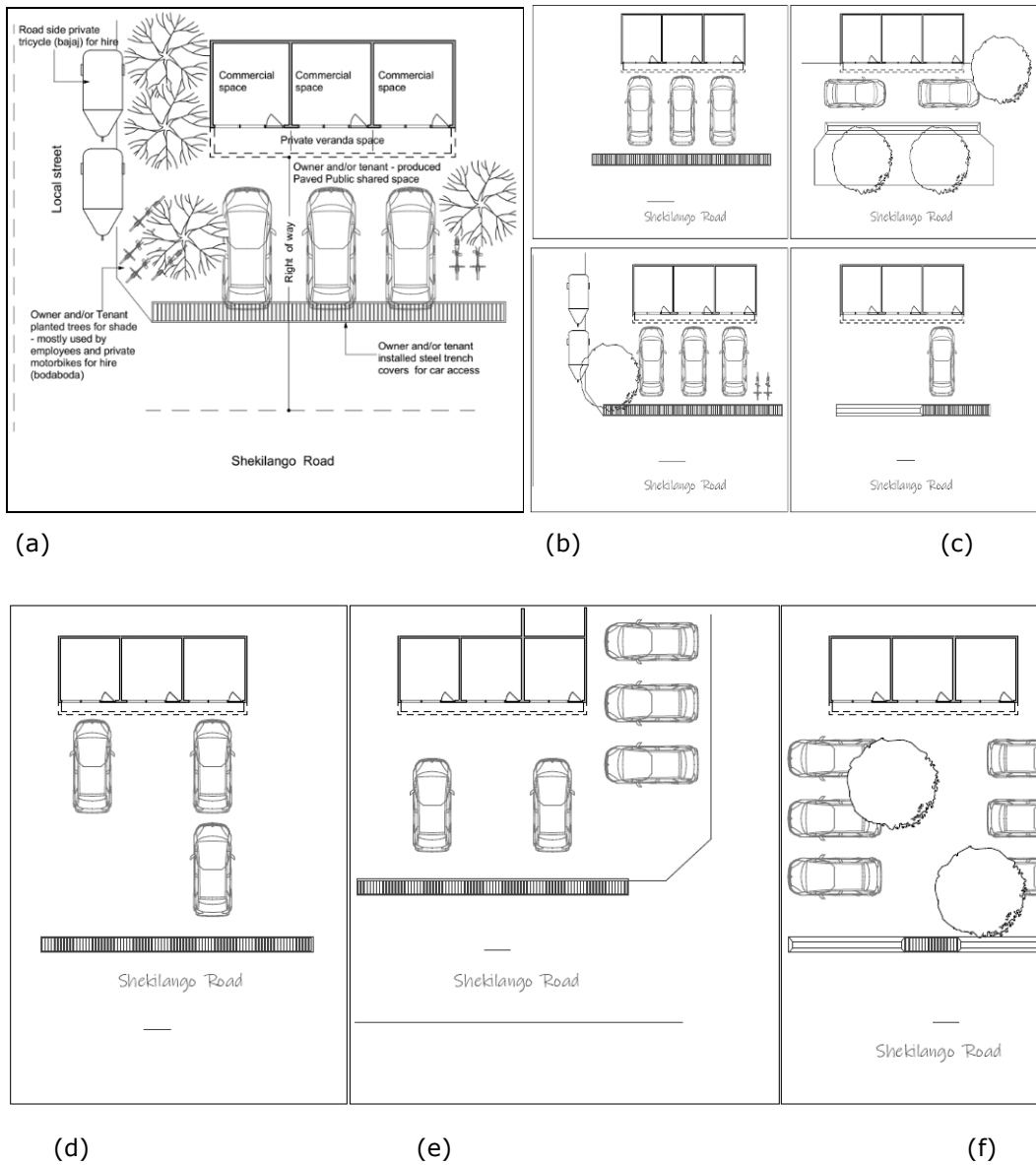


Figure 67: An illustration of parking spaces based on size and organization before the expansion of Shekilango Road (source: author, 2019).

Primarily, such parking spaces are informally created. In areas where parking space is needed the most, such as bars and restaurants, cars are arranged (Figure 67) to maximize the use of available space.



(a)



(b)



(c)

Figure 68: Images taken in (a) 2019 before road expansion; (b) 2020 during road expansion and (c) 2023 after road expansion (source: author, fieldwork 2019, 2020 and 2023).

Interventions to upgrade or expand roads are crucial as they improve city infrastructure but may be detrimental to the environment in commercial streets, as they don't take into consideration critical aspects of the existing spaces, such as green spaces, and considerations for vulnerable groups. As shown in Figure 68, tenant and landlord co-created outdoor spaces; parking public space and vegetation are cleared (Figure 68 (c)). This scenario reflects spatial development interventions that undermine users' contributions in generating built environments that had good intentions. Such intentions include parking stations (Figures 69 and 70), which are not typically considered when designing roads.

Due to inadequate involvement of key actors and the failure to preserve the character of the street after construction, various challenges, including mobility issues, emerged. This suggests that authorities overlooked the importance of accessibility and convenience for street space users. Residents who have this knowledge intervened and achieved what is referred to as the 'E' – Experience and 'C' – Convenience paradigm advocated by Kickert (2022), which is crucial for users to access commercial spaces and acquire goods easily. In general, this approach to designing commercial streets improves the shopping experience of users, including vulnerable groups. Also, the link between the street and the veranda space was threatened by this new development. These developments suggest that local experience and knowledge deserve more recognition as being an important part of city formation.



Figure 69: Bajaj and vehicular parking spaces before the road expansion (source: author, fieldwork 2019).



70 (a)

70 (b)

Figure 70 (a): A temporary bodaboda and bajaj parking space at Mori and (b) A focused group discussion at Kumekucha (Source: Author, fieldwork 2021).

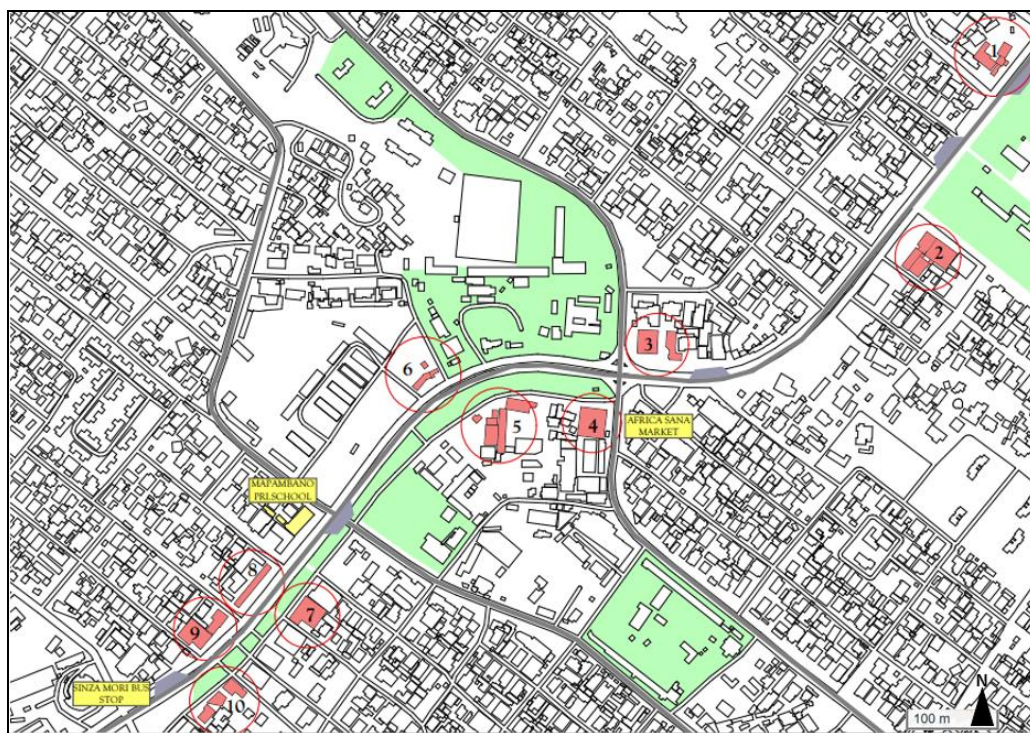


Figure 71: A section of Shekilango road from Bamaga junction to Mori Road showing the location of ten (10) out of the sixty-one (61) investigated plots.⁴⁴

Through an analysis of parking spaces (Figure 71), out of the sixty-one (61) plots, twenty-seven (37) plots had parking spaces prior to the road construction while thirty-four (24) did not have parking spaces or shared parking spaces (Table 22). Forty-four (44) plots faced problems related to displacement, under-provision, and blockage after the road expansion, meaning that the project negatively affected users who depended on the parking spaces to support their daily livelihoods. Given the importance of parking space and the contributions of users to achieve this, some requests for parking space were denied. Eight (8) out of thirty-seven (37) applications were denied access and parking spaces after the road expansion.

Table 22: Blockage of Access and Parking During and After Road Construction

Investigated plots and frontages	Plots with access and parking space	Plots with shared parking spaces	Plots without access and parking space	Plots that experienced parking and access problems during road construction	Users who requested access and parking space	Granted access and parking space	Denied parking space
61	27	10	24	44	40	32	8

(Source: author, 2022).

The generation and usage of parking spaces, specifically the “spontaneous parking areas,” suggest that they play a role in systems that operate and contribute to livelihoods and daily operations in the commercial street. For instance, bajaj and bodaboda operators mostly use such spaces to wait for customers. In the other dimension, improvised parking spaces demonstrate how tenants utilize spaces that appear redundant, and in the process, they informally create areas that accommodate the cars of users of the different spaces. The quote below shows the impact of losing user-generated parking spaces.

⁴⁴ Source: <http://www.openstreetmap.org>, 2023 modified by author.

*"Yes, we had a parking space before the road construction; delivery and supplying goods were easy, but now it is impossible. In fact, I have to bring crates of soda from the back of the house. We tried everything we could to keep the parking space. The contractor came and took measurements, but in the end, they denied our request, explaining that it was because the plot was near a busy junction. The customers we get through Instagram complain when they come to collect goods because they can either stop in the middle of the road or park at the nearest parking space, which is quite far."*⁴⁵

The parking spaces are largely self-produced, demonstrating how livelihoods shape urban space. They are thus essential ingredients of lively commercial streets. However, it is also clear that both the veranda and the parking space cannot be produced endlessly, as it threatens public use (Elrawy et al., 2024; Cramer-Greenbaum, 2021). This raises questions about how self-organized elements can be integrated into a sustainable design process. In this particular context, even though it is important to consider cultural traits (Elrawy et al., 2024) such as reliance on private vehicles, it is important to consider other modes of transportation. This approach can ensure sustainable use and fuel liveability and responds to Research Question Three on how self-organized practices can inform the future design and planning of commercial streets. Despite the road construction improving street visibility and pedestrian safety, several challenges were observed and are captured in Table 23. Table 24 shows the priority areas in the new building.

Table 23: Status of Zones and Qualities of Commercial Street Spaces after Road Expansion

The implications of the road expansion interventions	Status				
	Improved & more defined	Disrupted	Increased	Reduced	Removed
Green space		√			√
Paved and tarmacked surface			√		
Outdoor public space		√		√	
Parking space		√		√	√
Road width			√		
Street visibility	√				
Vehicular movement and access	√	√			
Pedestrian safety and movement	√	√			
Richness; signage, display, and rhythm	√				
Tensions between motorized and non-motorized modes			√		

(Source: author, 2023)

Table 24: Priority of Livelihoods, Activities, and Special Zones

Livelihood assets, activities, and zones	Degree of priority in the expansion project				
	High	Medium	Low	Very low	Not at all
Informal economies					√
Optional activities				√	
Social activities					√
Outdoor space			√		
Parking space				√	
Access to spaces				√	
Non-motorized movement	√				
Motorized movement	√				

⁴⁵ An interview response with a business owner in 2022 near the Shekilango and Bagamoyo road junction

Livelihood assets, activities, and zones	Degree of priority in the expansion project				
	High	Medium	Low	Very low	Not at all
Taxi, tricycle, and motorcycle spaces					✓
Green space					✓

(Source: author, 2023)

6.8.2 The Social Livelihood Assets of Commercial Streets: Linking Self-Organized Interrelations with Livelihoods

This section discusses how the interrelations between actors in self-organized commercial street spaces portray the social livelihood asset. Actors' roles and interrelations are discussed through two stages: in the development stage and during the day-to-day operations of the commercial spaces. For instance, how people utilize both interior and exterior spaces and how these spaces are shared or made private among users. It also discusses tensions and networks that emerge through day-to-day interactions and interdependencies amongst users (business and property owners and informal operators). Socioeconomic benefits resulting from self-organized spaces and interdependencies are also discussed.

As earlier noted, long leases make it possible for business owners to build structures that meet their needs, provided that the rent agreement with the landlord is met. Thus, in such cases, a Build-Operate-Transfer (BOT) agreement is often made. The tenant will therefore be responsible for the construction from conception to completion, overseeing its operationalisation, and will then transfer the building back to the landlord upon expiry of the lease. Business owners are actively involved in designing both indoor and outdoor spaces. They may add services such as air conditioning or stalls and incorporate treatments into the external space. For instance, they may provide pavers to accommodate their vehicles and those of their customers. In that sense, landlords and business owners depend on one another to create commercial spaces.

Business owners interact with various suppliers and manufacturers who supply the products they sell. Some respondents explained that they have only a business relationship with suppliers or neighboring businesses when asked about the nature of their relationships. However, through design anthropology, it was observed that the relationship was more complex than what the business operators claimed. They discussed their families and joked before conducting business. Often, businesses that involve frequent bulk purchases, such as cement block manufacturers and suppliers, tend to establish strong socio-economic ties with their customers. According to a respondent, a business operator who sells and supplies cement blocks, she has a strong network with architects, engineers, truck owners, laborers, and customers. These social and economic networks are established over time and are vital in supporting livelihoods.

Businesses that depend upon each other offer opportunities for shared collective space. According to the former Manager of Hongera Bar (now a filling station since mid-2024) along Shekilango Road, customers of the nearby business, a car wash facility, freely use the pub's parking space and the outdoor sitting area. The bar's operator allowed them to use their space because he had customers for his business.

"We welcome customers of Jeri Carwash to sit in our outdoor space because they usually buy a drink or food while waiting for their cars to be washed. It's an advantage to be their neighbors because their customers end up becoming ours as

There were, however, tensions between businesses, in which business operators see street vendors (locally known as Machinga) as intruders into the areas, mainly when they operate in front of their premises. However, the two groups co-exist through compromises.

Some socio-economic networks and processes show how people occupy space or secure employment opportunities. According to a respondent who owns a welding workshop in the Legho area, his sister facilitated his acquisition of the space he occupies. One of the most interesting findings regarding networks is that international networks also exist between local traders and those from countries such as China, Turkey, and Thailand, from which most products are imported.

Some business owners also sell their merchandise to government organizations within Dar es Salaam. The items sold include garments, appliances, stationeries, and luxury products. They also offer services and sell products to other regions. Three respondents operate in such networks. According to one of the respondents (an owner of a boutique), she buys some of the wedding products on credit from Turkey and pays back the debt when they are sold. According to a graphic designer at Kijiweni, he has provided his services to organizations such as (the Dar es Salaam Waste Water and Sewerage Agency (DAWASA), Tanzania Revenue Authority (TRA), and BIOGAS since 2016.

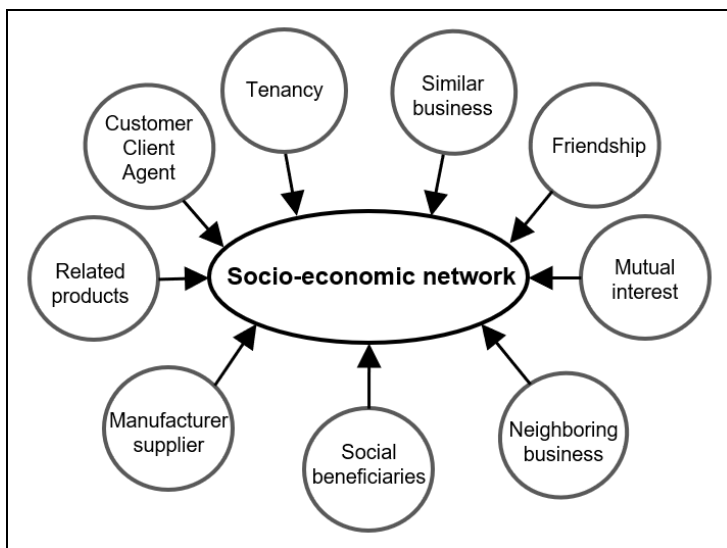


Figure 72: Socio-economic networks that support self-organized processes and sustain livelihoods (source: author, 2023).

From Figure 72, socio-economic networks can be short or long-term. For instance, neighboring businesses or those with mutual interests can organize themselves to initiate change when needed. Other social networks are long-term—for example, cooperation among owners of similar businesses, existing customers, suppliers, and others. An interesting finding was observed: convenience stores and cereal shops that were not immediate neighbors knew each other well and had established business and social networks. They recommend each other's businesses when their commodities are out of stock or when they do not sell particular products that customers need.

⁴⁶ An interview response with the manager of the then Hongera Bar along Shekilango Road in 2019.

According to an interview and observations of a business owner running a restaurant, mini supermarket, and online platforms for selling imported goods (mostly from China), she not only sells products to female entrepreneurs but also trains and empowers them. She has been able to save women who were stuck in the sex industry and has created partnerships with fellow women who she met in the course of conducting business in the street spaces. These partnerships relate to the buying and selling of products through credit support services. The respondent is quoted below:

*"You won't believe this, but this lady used to be a sex worker. We met some time ago, and I introduced her to my business and trained her. She is one of my loyal agents and a friend. I have seen her when she was an alcoholic struggling with life, but here we are now, witnessing her supervising the construction of her big house."*⁴⁷

Shekilango Commercial Street also sustains the livelihoods of its owners through the rent collected. According to a respondent who owns a 365m² plot, a 7sqm space for rent earns him around 300,000 per month, whereas a three or four-bedroom house (ten times the size of the commercial space) can be rented out for 500,000 per month. According to him, commercial spaces don't require regular maintenance and hence offer better returns than residential space. The quote below serves as evidence of how businesses along Shekilango Road sustain their livelihoods through networks that have been built over time.

*"Where would I be if it wasn't for my mother? My capital – 20,000 Tanzanian shillings - came from my mother. Even though I was switching from one business to another, my biggest desire was to run a food business. The Shekilango road, with its thriving businesses, looked very potential for food business. Three years ago, I had to make up my mind and get into the food business. I don't, and I will never regret this decision, as I get customers from nearby shops who are regulars. I also get customers from places such as Ubungu and Mwenge, most of which are passersby or are in Sinza for short business affairs."*⁴⁸

The importance of networks built over time was observed by analyzing the stories of business owners who settled in Sinza, drawn by the prospect of employment opportunities. The findings have revealed that many business ventures along Shekilango Road are sustainable, as some have been in operation for as long as 10 years. The quote below is evidence of this finding:

*"My medical journey started when I graduated from a medical school at St. Joseph in Dodoma in 2007. I then started working at a referral hospital in Dodoma before joining Magomeni Hospital in Dar es Salaam for two years. In 2014, I started working here as an assistant pharmacist until now."*⁴⁹

The commercial spaces accommodated in the streets are an essential source of employment and informal livelihood activities (Figure 73). There are small, medium, and large-scale businesses, as well as corporate companies, that have rented commercial spaces. Some small-scale operators portray a

⁴⁷ A conversation with a respondent and an observation of her agent and friend at her construction site

⁴⁸ Interview response and narrative compilation with a respondent along Shekilango road in 2019

⁴⁹ Interview response from a pharmacist owner along Shekilango road in 2019

survivalist, informal economy that is fostered by the presence of businesses on commercial streets. Such economies, including car washing, food vending, and shoe shining, also survive through networks built over time (Boonstra et al., 2011). Out of the twenty-six (26) business owners who responded to the question on employment and the number of employees they hired, three (3) said they did not have any employees, and twenty-three (23) had between one (1) and three (3) employees. In addition, a total of sixty-nine (69) informal employees were reported.



Figure 73: Informal economies such as juice and food vending and car washing before the road expansion (source: author, fieldwork 2019).

*"I moved to Dar es Salaam from Shinyanga in search of a better life. I have been doing this sugarcane juice business for the past six months. It sustained me and my family, and it worked very well since the bus stop at Mugabe Primary School was very popular due to the presence of students and commuters. It will be reallocated because of the road expansion. All my efforts will be shattered to pieces."*⁵⁰

Business operators have social networks among themselves that are useful when collective action is needed. These networks were observed through business relationships and interdependencies among different service providers that serve residents and customers along Shekilango Road. Such services include different modes of transportation hire, such as taxis, tricycles (famously known as "bajaj"), and bodaboda. Transport services have strong networks with tenants who own commercial spaces, such as shops, mini-markets, lodges, bars, and restaurants. When a customer needs transportation, such services are often readily available nearby. An informal vendor revealed interdependencies among him, the landlord, and the business owners he serves:

⁵⁰ Interview with an informal juice vendor during the road construction along Shekilango road in 2020.

"The landlord allowed me to stay here because while I sell food to the business owners, I also help keep the place safe since I am always right here. I also make sure that all cars in the parking space are safe."⁵¹



Figure 74: An informal vendor who also keeps watch (source: author, fieldwork 2019).

Interestingly, informal operators, such as food vendors (Figure 74), serve as watchmen and are often offered this role to keep the business premises safe. Some business owners seek strategic locations within Shekilango Commercial Street so they can increase their livelihood earnings. According to a pharmacist (and owner) of a pharmacy with three (3) employees, he wished to locate his shop near the Palestina Health Centre (a government health center) so that he gets customers who do not get medical supplies from the hospital. Starting with a 9 sqm space, he had been able to expand his business by adding 6 sqm more and by purchasing additional furniture, as well as redesigning the space to cater to the increasing number of customers. The pharmacy also serves the Sinza community and other customers from outside the area.

⁵¹ An interview with an informal food vendor near Mapambano area along Shekilango road.

In that sense, the mixed-use character — combining residential and other uses — makes it possible for residents to access social and basic services. When interviewing residents and passers-by, out of twenty-nine (29) residents and passers-by who responded to the question about their feelings regarding the mixed uses of the street, twenty-seven (27) responded affirmatively, arguing that this was good due to its opportunities for services, employment, and recreation. However, the mixed-use character was detested by two (2) respondents due to aspects such as noise from bars and increased prostitution. This suggests that there is a need for regulatory interventions to address tensions associated with incompatible land uses in commercial streets.

Findings have also revealed that shopkeepers foster and maintain ties with residents, in turn helping to strengthen their customer base. Strong social ties and friendships are essential in sustaining livelihoods. This would not have been revealed by relying entirely on methods such as interviews or observation. Informal operators, such as car washers, as mentioned earlier, also have strong ties with their customers, as they tend to settle in specific locations for a long time.

According to a respondent (an owner of a stationery outlet) at the junction of Bagamoyo Road and Shekilango Road (Figure 75), she has built and maintained strong social and business ties with organizations such as the Tanzania Broadcasting Corporation (TBC), the Institute of Social Work (ISW) and the College of Information Communications and Technology – University of Dar es Salaam (CICT-UDSM). She offers services such as printing, publishing, and photocopying.



75 (a) top and 75 (b) bottom

75 (c)

Figure 75: Socio-economic network diagrams. ⁵²

In Figure 75, business relations were observed among two cereal shops and a convenience store (Figure 75(a)), among three business owners in two different buildings (Figure 75(b)), and between a stationary facility and three nearby institutions (customers). Such relational qualities aren't mapped before major infrastructure projects are carried out and, thus, remain unknown. Owners have also shown that strong ties with business operators can help to sustain livelihoods through trust. Such networks were observed in the case of an owner of a clothing store who has a 14-year lease period. Another case was of a respondent (an owner of an online business, multiple businesses near the Institute of Social Work who expanded her businesses on the same plot by being favored by her landlord to occupy every new vacant commercial space.

"I have a long history with my landlord, who now lives in Bagamoyo. I own this entire place, as I now occupy all but one space. My landlord always called me first when other tenants were about to leave. That is how I came to expand my base here. I might buy the plot if the owner decides to sell it."

Long lease agreements are crucial to guarantee a good investment in the creation of attractive business space and ensure the return of capital and profit. According to a property owner of the former Kumekucha Auction Mart in the Kumekucha area, renting out residential space depends significantly on the social standing of the tenant. According to the owner, some tenants are a burden and make it costly and very difficult to get new customers once they have left due to poor upkeep of the rental premises.

⁵² Source: <http://earth.google.com>, 2023, modified by author.

*"Some tenants are stubborn, have unpleasant behaviors, and do not take good care of the house; the money obtained from rent ends up in the costs for repairing it."*⁵³

This quote, as discussed earlier, suggests that, besides contractual agreements, landlords also consider social standing and rely on trust in the would-be tenants. Landlords also prefer changes to commercial uses over residential uses due to the higher rents and minimal maintenance costs.

6.9 The Lived Space; The Potentials and Drawbacks of Self-Organized Practices

When owners and tenants occupy space, they appropriate it by adding to it, creating new spaces, and transforming existing ones. The arrangement or configuration of space influences how space is used from the inside out. This process of space generation may inform the tacit knowledge of conventional planning and design deployed by non-professional actors. Setbacks are not left unused; instead, they are given new, permanent uses. For instance, commercial spaces, bedrooms, toilets, or public areas, such as sitting areas or dining areas, may be provided in such setbacks.

In another case involving a house that was transformed into multiple commercial spaces, the living room spaces are appropriated by making use of its walls (i.e., placing shelves along the walls to accommodate items such as home appliances and utensils and luxury and beauty products. Furniture, such as tables and sofas, is provided to make the space multifunctional.

*"I'd sit here sometimes with my computer and work on my PhD, which is getting harder to finish each day; - I'm too fixated on money. I also have meetings here. I sleep in one of the rooms when I'm too tired to drive back home". I always dreamed of having a work and living space.*⁵⁴

The setback space (bounded by a collector road) has a half-height masonry wall with wire gauze to allow airflow and views a paved surface and a timber and fabric ceiling with lighting and fans. Overall, the created space encourages sitting and staying, making it attractive to passersby.



76 (a)

76 (b)

Figure 76: (a) The living room space and (b) An attendant sorting out products and attending a customer (source: author, fieldwork 2020).

⁵³ Interview with a landlord at Kumekucha, Shekilango road in 2019

⁵⁴ Interview with a business owner on 29th November, 2020.

In Figure 76 above, dining and living spaces are appropriated for storage and display. A customer (seated) and an attendant sorting out products and packing are observed. The multi-use of the space allows it to serve as both a storage and packing area. Since there are sofas, the space is also used for resting and conducting meetings.



77 (a)

77 (b)

Figure 77: (a) Research assistants pictured at the exterior of and (b) The interior of a restaurant/cafe that occupies the setback of a plot (source: author, fieldwork 2020).

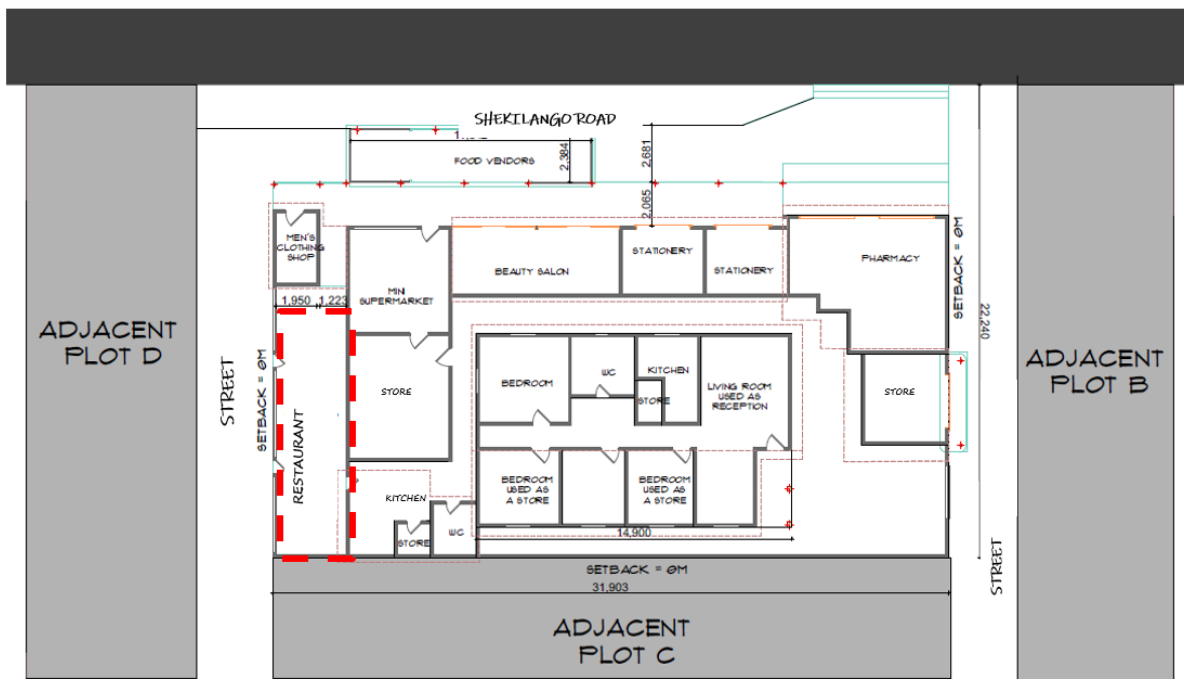


Figure 78: Layout plan of a mixed-use plot (source: author, fieldwork 2020).

The mixed-use plot in Figure 78 consists of commercial spaces on the front and sides and a residence at

the back, which was later transformed to accommodate commercial spaces. The owner maximized plot usage by providing more commercial spaces on the setbacks.



79 (a)



79 (b)

Figure 79: (a) Space appropriation on the floor of the veranda and (b) Space appropriation for vehicular access (source: author, fieldwork 2022 and 2019).

In Figure 79 (a), A commercial building's floor and plinth are appropriated by different business operators to meet their varying tastes. In Fig. 79 (b), steel covers are installed by business operators to cover a stormwater channel for giving vehicular access to parking spaces.

The pedestrian zones are, at times, encroached upon through the extension of the veranda when there isn't enough outdoor space. This inadequacy is one of the scarcities that the road expansion did not address. Such encroachments are mostly observed during late evening and night hours when there are fewer pedestrians and cars. In this manner, the use of pedestrian and parking zones becomes temporal, depending on the time of day.

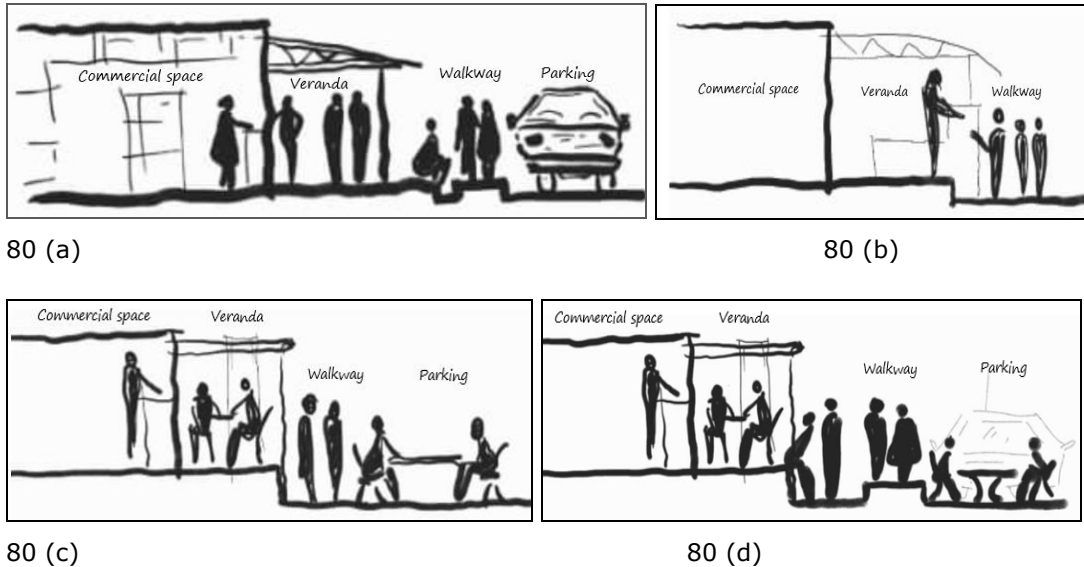


Figure 80: Typical space appropriation and use along Shekilango Road (source: author, 2021).

In Figure 80 (a), all zones are designated, (b) walkways are encroached upon by veranda space, (c) walkway and road space are merged with veranda space, and (d) walkway and parking spaces accommodate multiple activities. The provision of space for interior and outdoor amenities is a crucial physical and social resource for commercial premises. It is co-created and often interconnected functionally to support livelihoods and the basic needs of users. It is referred to as co-created characteristics because of the dynamics in use among tenants, owners, residents, and onlookers. This appeared most clearly in the dynamics around the veranda and its immediate outdoor space. Its public presence, how it is shared among tenants, size, permanency, and temporariness—among other aspects—challenges governance-organized design processes and poses questions related to the design and usage of space.

The multiplicity of use, fluidity, improvisations, and silent negotiations that users make in shaping, creating, and using space without conflict or contestation suggest that users understand the specific contexts of their planned business activities. The fluidity leads to compromises, for instance, where pedestrians, motorcycles, and vehicles or business activities occupy and use walkways). This supports the ideas embedded in the first component of complexity theory (non-linearity) in that urban development is made up of dynamic processes. These processes need to be understood. Urban-built environments in these contexts should thus be understood as spaces that cannot be shaped or regulated by linear spatial planned development approaches. They need to be analyzed or informed using approaches that address everyday urban realities and issues that go beyond modernizing and expanding. In this sense, the non-linearity component of complexity theory and the social production of space theory support the fluidity and spontaneity, informing practice (civil works and top-down design approaches) that neither adequately involve users nor integrate their contributions in spatial development.

6.10 Summary of the Main Findings in This Research

This research has generated new knowledge in the fields of architecture, urban transformation, participatory design, participation, and urban livelihoods. This research has also informed on the theories applied in the analysis, and generated new knowledge on research methods in the field of design anthropology. Table 25 summarizes the main findings and the knowledge generated.

Table 25: The Main Findings and Reflections

S/N	DISCIPLINE	MAIN FINDINGS AND REFLECTIONS
1	Architecture	• Users (landlords and business owners) achieve visually appealing spaces, diversity, and amenities for supporting their commercial spaces with little involvement of professionals. The future design and planning of commercial streets should consider this. • Through informal processes, users' actions threaten public use and sustainability of commercial streets. • Space is co-produced using dynamics between landlords and tenants.
2	Urban transformation	• Users gradually transform their spaces to overcome scarcity in the built environments and support their daily livelihood needs through implicit and explicit self-organized processes.
3	Participatory design	• Participatory design does not guide interventions and the design and planning of urban streets; however, users, professionals, and contractors interact during construction to negotiate on spaces and amenities using self-organized processes. This process calls for context-sensitive PD and not universal approaches. Such processes should be made formal.
4	Participation	• Participation is a combination of "tokenism" and "non-participation" in which participation entails manipulation, therapy, informing, consultation, and placation. Residents need to be adequately informed and involved in spatial development projects.
5	Urban livelihoods	• The qualities of space and amenities (parking, veranda, and outdoor space) are physical livelihood assets that need to be considered in interventions and the design and planning of urban commercial streets. • Actors' socio-economic networks, interdependencies, and diversity are the social livelihood assets that need to be considered in interventions and the design and planning of urban commercial streets.
6	Design anthropology	• Ethnographic methods such as co-working, observations, and shadowing encourage respondents to participate and reveal deeply-rooted information that cannot be easily obtained using traditional methods such as interviews. Such methods are useful in environments with scarce resources such as time.
7	The theory of production of space	• The technocrats' space, which is perceived as a dominant space in 20th-century urban France, cannot be generalized for every context. • The lived space is dominant in the African context.

6.11 Chapter Summary

Self-organized spaces have revealed co-creation dynamics involving landlords and tenants leading to livelihood opportunities, and deliberate violations and informal processes that pose challenges such as congestion, ventilation concerns, and lighting. There are challenges associated with how information is conveyed to residents in spatial development projects. Even though users, professionals and authorities share common interests in spatial development, their interaction does not adequately capture it, leaving a gap in how these actors can come together to address their needs and intentions. Interdependencies, diversity, qualities for sitting, staying, and protection, and networks are observed in the lived space that is created over time. Even though self-organized processes achieve visually appealing spaces and livelihood assets, they also negatively affect the built environment and call for closer interactions among users, professionals, and authorities. In what follows, such critical issues that emanate from the findings are discussed.

CHAPTER SEVEN

SYNTHESIS - KEY OVERARCHING ISSUES

7.1 Introduction

This chapter presents overarching issues that professionals, policymakers, authorities, and donors can reflect upon when devising means, for example, for analyzing urban space before major infrastructure interventions in already developed urban environments. Among others, the issues include users' actions and behaviors in response to the design of commercial streets, the nature of interaction and self-organized practices by the state and qualities of space before and after the road expansion. It highlights the qualities and tensions resulting from self-organized practices, the effects of untimely involvements of residents as key actors, and the limitations of the top-down approach in spatial development. It also discusses self-organized participatory design practices and users' responses and reactions to top-down road expansion, among other areas. Lastly, it concludes stakeholders' engagement, the built environment, and sustainable planning and design of commercial streets.

7.2 Overarching Issues

Self-organized and top-down processes have both opportunities and constraints observed in terms of qualities of space, tensions, interdependencies and users' behaviors, among other issues. These critical issues are further elaborated and discussed.

7.2.1 Complementarities and Tensions in Self-Organized Commercial Streets

Self-organized urban development processes reflect the intuitive knowledge contributed by different actors who co-create commercial streets in response to market and livelihood needs. Owners, as primary actors, play a crucial role in shaping self-organized commercial spaces. This includes decisions they make to change their property from residential to commercial use or to approve, disapprove, or modify tenants' preferences. There are challenges associated with the quality of the resulting spaces. Understanding the usage of shared spaces, such as the veranda parking spaces, and the design of elements, such as signage, can help inform planners and designers on the appropriate standards and considerations that reflect users' needs for commercial spaces and other uses that connect between interior and exterior and between shops and motorized and/or non-motorized passengers. Interdependent spaces create new highly connected hybrid spaces (public/private) and foster livelihoods in the neighbourhood.

First, the observations revealed that parking space and commercial space are interdependent and have a significant impact on commercial spaces. Easy access to commercial spaces plays a role in promoting business environments that attract both passersby and motor vehicle users. Few business owners relied mostly on online customers because it was difficult for customers to access their commercial spaces physically. Due to the improvement of the road, some property owners considered modernizing, renovating, or face-lifting their properties. Some business owners anticipated expansion by acquiring more space. This indicates that residents acknowledge the qualities of the street after Shekilango Road was reconstructed. It also suggests that businesses depend on both social media and physical networks, as well as physical space for customers who visit their commercial locations. The future design of commercial streets should consider this, as it may impact the planning and design of business environments.

Second, employment, informal economies, and interdependencies emerge from the diverse uses and functions of these systems. The self-organized processes and qualities reflect users' needs for creating business environments that support their livelihoods. The resulting planning and design parameters are seldom seen as qualities that may inform formal interventions by governments and authorities (Mokolane, 2023). Engaging professionals who are not equipped with the right tools, such as users' knowledge and preferences, may lead to inadequacies in the built environment. Despite informality being the mode of operation for space generation in most urban areas of sub-Saharan African cities, informally created street spaces have not been properly documented or analyzed (Babere, 2015), meaning that the networks and interdependencies remain unidentified and unanalyzed, and are not considered in top-down urban developments. Doing so could offer new ideas and inspiration on the socio-economic aspects of self-organized streets that professionals and authorities can tap into in urban spatial interventions.

Third, as discussed earlier, some hybrid spaces (i.e., private and public) create tensions due to incompatibility with adjoining functions, such as a clothing store and workshop fabricating windows and doors. Five (5) respondents reported that they had tensions with neighboring businesses, thirty-two (32) had good relations while (6) were neutral. This suggests that aside from designating use classes, land use may also consider distribution and compatibility of functions. This may also serve as a tool to guide property owners when renting out commercial spaces.

The critical aspect of the individual design of parking spaces and verandas sometimes enriches, but at times diminishes the quality of public space. The question is how such decisions can be complemented with a critical debate to safeguard collective public space. This becomes useful when businesses have strong interdependencies. There is thus a need for a thorough analysis of the typologies of commercial spaces to establish their spatial relationships. The tension between an ice cream vendor and a stationery business, which arose because the vendor was stationed in front of the stationery space, could have been resolved by integrating appropriate spaces for movable and temporary commercial uses when reconstructing roads.

7.2.2 Challenges of Public Engagements

The drawbacks of the approach adopted by the authorities in the expansion of Shekilango Road are threefold. First is the means used and their usefulness in conveying information to the public, i.e., the use of public announcements (speakers) to convey the message was insufficient. For instance, announcements made along the road did not cover other stakeholders who are not situated directly along the road but depend on it for their livelihoods. Second is the nature of the information given to the public; this was insufficient for them to comprehend the changes to their business environments and how they would affect their livelihoods and living and working spaces. Even though the information conveyed to the residents was meant to ensure that their rights would be protected (in the case of one's property being damaged), it did not show what was at stake. Third was the untimely involvement of residents who had been involved in co-designing the street after they realized and complained about difficulties in accessing their business premises. The project did not take an approach that would have addressed the immediate needs of residents on site from the beginning, for instance, preparing drawings based on the existing site conditions and sharing them with the public. Individual and collective actions by residents led to the formal co-design of the street. This suggests that in such contexts, self-organization serves as a means of ensuring public engagement in state-driven spatial development projects.



Figure 81: The effects of poor engagement of users upon realizing the expansion of the road has neglected essential needs and preferences (source: author, 2023).

The way information is transferred from authorities to residents, as well as the nature of the information and reactions, is captured in Figure 81. Property owners and business operators strived to meet the contractor and the professionals responsible for supervising the road project. The interaction was organized by the local government, which formed committees to interact with the consultant and contractor to address their needs. Users with similar concerns sought cooperation with the road agencies and were able to negotiate for parking space and improved vehicular and pedestrian access. However, some owners who had previously had informal parking spaces and lost them due to the road expansion were denied new parking spaces. Commercial spaces lacking parking spaces attracted only a few tenants. In such cases, road reconstruction and expansion, while improving urban infrastructure, may cause new problems that adversely affect livelihoods. The interaction that occurred between residents, professionals, and contractors suggests that there is room for creating a collaborative space where project developers, authorities, professionals, and residents can work together to achieve their priorities and needs.

7.2.3 Design Inadequacies and Disappearance of Rich and Creative Commercial Street Qualities

Although the feasibility and design stages did not involve users, thereby overlooking vital considerations, the state-driven intervention significantly improved the road infrastructure. The whole road was tarmacked, widened, and paved. With the improvements, the commercial street became more appealing and attracted more investment, such as multilevel commercial buildings. The multi-storey developments increase retail outlets, thereby adding more revenue and employment opportunities. This improvement also increases the demand for parking spaces. On the other hand, it also disrupts the user-created qualities that evolved over a 45-year period. Outdoor social spaces, creative display and signage designs, tactile experiences (through textures), sound, and smell, as well as multifunctional spaces slowly

disappear. Between 2021 to date, fourteen (14) buildings, three (3) low-rise buildings and eleven (11) medium and high rise buildings have been erected. Four (4) plots out of the thirty nine (39) investigated plots have been redeveloped. The popular Hongera Bar was demolished and a filling station was built. Two (2) mixed-use plots at Bamaga and Legho have been replaced by high rise mixed-use buildings, while one (1) building (Figure 83) at Kwa Remmy area, is undergoing vertical extension. These indicators of a lingering gentrification process, suggest that smaller-scale investments that feature richer street qualities and vibrancy, are slowly being displaced.

As spaces become more private (Figure 82), it also displaces more public and shared spaces (Rankin et al., 2015). As a result, the qualities of sitting, staying, and protection, as well as the social activities that were self-organized, are slowly disappearing. As observed in areas such as Kariakoo (a single-storey residential area that rapidly changed into a congested high-rise CBD, such unguided developments along Shekilango Road could also lead to critical spatial challenges such as congestion, lack of enough parking spaces, poor ventilation and lighting problems, among others (Moshi, 2009). High-rise buildings and new spatial forms, including basement shops that are gradually emerging, may continue to affect traffic flow as well as general street functionality (Kazaura et al., 2017).



Figure 82: A newly constructed 2-floor commercial building at Kumekucha with commercial spaces on all floors (source; author, fieldwork 2022).

With ground-level retail outlets as the most attractive retail space in mind, one may ask how sustainable are multilevel retail developments and how they have considered aspects such as increased traffic and congestion. The state, which is supposed to regulate urban design and development, has not taken significant action on this matter, and as a result, once-livable spaces may be ruined unknowingly (Tsing, 2017). The interviews revealed that some tenants with retail spaces that were not provided with parking had no intention to renew their leases, mainly because parking spaces were not available. This may leave the property owner with little or no option but – to redevelop and may come at the expense of losing the rich, self-organized spaces.



Figure 83: A newly constructed 2-floor commercial building at Sinza Kwa Remmy with commercial spaces on all floors (source: author, fieldwork 2022).

When one critically examines the new developments (Figure 83) that significantly diverge from user-initiated developments, one notes that the attributes of functional commercial streets, such as vibrancy, diversity, and multifunctional hybrid spaces for various activities, are missing. Residents cannot appropriate exterior space, as such buildings often adopt and require monotonous building elements, such as signage, as seen in Figure 83. Diversity in functions and interdependencies may also be affected as food stalls and informal operators are gradually displaced. Lastly, the quality of sitting and staying is compromised as spaces become more private. As a result, social activities such as sitting and informally interacting in verandas or under-shaded spaces are no longer taking place. The opportunities for a street to function as a public space are thus significantly affected and reduced when streets are transformed without taking into account the values inherent in self-organized qualities and processes (Bacon, 1976; Horelli et al., 2015).

One of the advantages of the road expansion is the introduction of pedestrian walkways along Shekilango Road. The walkways are used by multiple users, including children, commuters, business operators, and passersby. Some of the shops are directly connected to walkways, while some of the shops are far away from them. Overall, the provision does not fully respond to the needs and realities of users, including pedestrians and commuters. This indicates that authority-driven interventions have gaps in their response to urban realities (Sundaresan, 2017; Kombe, 2000), resulting from inadequate engagement with local actors. Since the provision was not preceded by a thorough analysis of retail, outdoor spaces, and walkway dynamics, several challenges were observed: some of the walkways are unused (Figures 84, 85, and 86(a)). Instead, users walk on either the tarmacked road or grass, suggesting that the design has not positively contributed to key attributes such as walkability and connectivity in the street's design (Gehl et al., 2006).



Figure 84: A pedestrian walks on a tarmac road adjacent to a paved walkway that has been occupied and blocked by business operators (source: author, fieldwork 2023).



Figure 85: A pedestrian walks on the grass far away from a newly installed paved walkway (source: author, fieldwork 2023).



86 (a)

86 (b)

Figure 86: Pedestrians walk on sand-covered tarmac adjacent to a paved and elevated walkway (source: author, fieldwork 2023).

Walking and socializing areas, such as verandas and outdoor spaces, are also contested by different users along the road. They are extensions of outdoor and veranda spaces, becoming outdoor seating or display areas. They are also used as informal motorcycle stations and vehicle parking areas (Figure 86 (b)). Such activities diminish the value of walkways on one hand; on the other, they suggest that what is conceived by donors and professionals on the drawing board, may not reflect what happens in reality on the ground. Such coexistences and compromises suggest that lived space in this context is often a negotiated space that caters to the needs of many users, both human and non-human (Babere, 2015; Okello, 2013; Ingold, 2015).

7.2.4 State -Influenced Participatory Design Approaches and Livelihoods Limitations

Before the road reconstruction and expansion, the resident-generated urban spaces were endowed with patches of green spaces as part of the soft landscape. These features attracted and made it possible for optional and social activities to take place. People socialized under the trees, on chairs, benches, and other urban street furniture. On a tropical day with scorching sun, features that are necessary to reduce hostile temperatures are often not given due attention by city guardians (World Bank Group, 2016). Trees that were cut to pave the way for the road expansion were never replaced (Figures 87 and 88). The project also did not consider green spaces. This makes the street user-unfriendly (Ibid) and raises many questions about decision-making in landscape design aspects within urban contexts in Tanzania. It also ignores the design by residents, which contributes to the physical asset. Urban designers, sociologists,

architects, and landscape architects ought to be crucial professional players in such schemes but were left out in the Shekilango and similar road projects.

According to Municipal project officials, the World Bank, which was the funder of the Shekilango Road and several other projects in the city (DMDP projects), prioritized mobility, particularly pedestrian walkways. If there were a thorough analysis of the qualities of the existing built environment, tensions and discontent in the use of space would have been minimized. The road expansion has, in some sections, diminished rich urban spaces and taken away vegetational cover, thereby creating what is seen as dull and reductionist modernistic spaces (Edjabe et al., 2011; Okello, 2013). Such road expansion approaches also pose threats to socialization and livelihoods as parking and public outdoor spaces are neglected.



Fig. 87(a)



Fig. 87(b)

Figure 87: Plot frontage scenarios of outdoor space before (a) and after (b) the road expansion (source: author, fieldwork 2019 and 2021).



Fig 88(a)



Fig. 88(b)

Figure 88: A Street section before (a) and after (b) the road expansion (source: author, 2019 and 2021).

Figures 87 and 88 depict the outcome of state-driven interventions in street/road projects, i.e., reduced or disrupted social and diversified usage of space. Trees are removed from the outdoor space. Covered and expanded outdoor semi-public and public spaces with possibilities for interaction, playing, and resting are replaced by a narrow and hard-landscaped outdoor space with no vegetational cover. In Fig. 87(a), the user-generated parking space can accommodate vulnerable groups, including physically impaired users, due to its single-level and gentle slope design. This quality, however, is neglected in the authority-driven road expansion, which introduces steps and steep slopes.



Figure 89: A section of Shekilango Road in 2015 before the road expansion and after the expansion in 2022.⁵⁵

In contexts with high temperatures and limited mechanical cooling systems, covered outdoor spaces such as verandas and shaded green areas offer important options. Observations on Shekilango Road showed that, before the Shekilango Road expansion, which had a significant amount of green and shaded outdoor spaces, there were a lot of public activities. The street was vibrant and full of people socializing. With the newly introduced solid landscape and reduced shaded spaces (Figure 89), most of the tenants rest inside their commercial spaces. With poor ventilation due to a lack of stable power, interior space becomes unbearably hot. Even when power is restored, air conditioning cannot operate continuously throughout the day, as it increases the electricity bill. Although green spaces positively contribute to the quality of streets (World Bank Group, 2016), they are not considered by some users as the best solution to curb the heat, as they block the visibility of commercial spaces and attract bodaboda stations. They also encourage sitting and socializing, which also block the visibility of commercial spaces. This suggests that professionals responsible for planning and designing streets should carefully consider the most appropriate vegetation to safeguard the interests of all users, such as visibility of goods on display and signage.

Modernization and progress are important in any society. However, when we do not carefully consider what is at stake or when we impose our self-acclaimed proposals, we undermine essential contributions. Modernization may serve the needs of bureaucrats and designers rather than the end users of space (Till, 2009; Tsing, 2017). It is essential to have a profound understanding and appreciation of what makes urban spaces function effectively to address critical issues, such as the social, economic, and environmental implications of road expansion. Essential questions that emerge include:

- How should key stakeholders be involved in identifying what is at stake for both residents and authorities?

⁵⁵ Source: earth.google.com, 2022, accessed and modified by author, 2023.

- How should the voices of users, lowkey and prominent actors be heard?
- What considerations should be given to outdoor amenities such as green, outdoor public spaces, and parking spaces?
- How should mobility consider easy access to commercial premises and road connectivity?

These questions are fundamental to a road expansion that reflects everyday urban needs and realities. They also emphasize inclusive design approaches, which, if adequately implemented, become sustainable and nurture the progress that comes from intuition. They also move away from universal approaches to modernizing urban environments and instead address particular contexts that professionals and authorities design for.

7.2.5 Explicit and Implicit Self-Organized Practices

As previously discussed, in the 1970s, when Sinza was a planned residential area, most home builders secured loans from the Tanzania Housing Bank. The builders used predesigned prototype drawings from the municipality. The municipality inspected every stage before endorsing applications for funds. After the houses were completed, the owners needed additional sources of income, which led them to explore various investments, including animal husbandry, as well as businesses such as bars, restaurants, and retail shops. Additionally, bonded warehouses have emerged in certain areas along Shekilango Road. Such developments continued gradually and evolved until commercial spaces became the dominant form. Most of this development occurred largely informally, with the government providing support in infrastructure, such as approving informal parking spaces on the right-of-way (RoW) to support businesses. Professionals were generally not involved in the generation of such commercial spaces.

Most of the developments were done intuitively through creative skills and the use of ICT and social media such as Instagram and Pinterest. The majority of users rely on social media and collaborate with artisans to achieve their desired outcomes (Table 19). This suggests that intuition supported by ICT plays a vital role in users' creative processes as they appropriate and generate urban spaces. The available space evolved intuitively to accommodate new uses, such as outdoor public spaces. For instance, at the Sinza fast food restaurant (along Shekilango Road), a parking space was transformed into an outdoor seating area to accommodate increasing customers.⁵⁶ These intuitive processes also suggest that spaces are shaped by entrepreneurial practices in which trials and errors in business ventures influence the type of space that is appropriated (Boonstra et al., 2011). This has been observed, as noted earlier, in the development of the commercial street over the years.

Property owners tried different businesses. Imitations to attract new customers and make existing ones more comfortable also lead to alterations to spaces. In that sense, self-organized actions fall under two main processes that closely reflect what Mitlin (2008) refers to as self-organized co-production. The first is organized action, which involves communication and cooperation among key actors (property owners and potential tenants) who carry out developments or resist top-down urban development processes. Property owners and tenants/business owners who cooperate and propose changes to the built environment. They stood up to formal planning procedures, organized themselves, and negotiated with authorities to achieve their desired space needs. This is what I refer to as "Explicit or Direct Self-organisation." Through this self-organized action, parking spaces, access to commercial spaces, and

⁵⁶ Observations made through shadowing in 2023.

improvements to the newly constructed road were made. This suggests that although urban development ought to be a formal participatory process from the beginning, there should also be room for negotiation during construction to allow for improvements. This approach is crucial in contexts of commercial streets, where residents are busy with livelihood activities and may not have the luxury or adequate time to attend meetings or conduct lengthy interviews to discuss urban development proposals.⁵⁷

The second process is the unseen collective and individual actions. This process does not involve direct communication or cooperation between property owners and business operators. Rather, it involves learning from the environment (through experience and observation, as seen elsewhere, i.e., other transformed properties as well as individual intuitive processes). According to property owners, after exploring different options for their property to accommodate other functions, such as rental houses, bars, restaurants, and the like, they resorted to developing retail spaces. This followed either advice from potential business operators who required commercial space or by learning from surrounding transformed spaces, i.e., replicating the same on their plots to some extent.

Property owners and would-be tenants learn from each other as they gradually construct new commercial spaces, transform their properties, or extend existing commercial spaces. As this happens spontaneously, it suggests that urban development in such contexts in African cities is a complex and fluid process that may be difficult to predict or configure as expected in conventional urban planning. The design anthropological approach, applied in understanding the processes through shadowing, observations, and in-depth discussions with users and tenants, has proven helpful in uncovering possible development trajectory patterns. This pattern of development is what I refer to as "Implicit or indirect self-organization."

What has become apparent is that, even though the patterns cannot be projected, urban design principles such as balance, rhythm, and symmetry are largely unnoticeable. This, as noted earlier, is because the space transformation processes are highly flexible and responsive to individual needs, uses, and local contexts (i.e., where the property being transformed is located and the plot sizes). Most importantly, the limited engagement of professionals, i.e., architects and urban designers, coupled with a minimal role played by regulatory institutions such as municipal councils, also contributes to diminished or nonadherence to basic urban design principles and diverse outcomes, as illustrated earlier in the chapter.

7.2.6 Space Use, Behaviors, and Responses to Design Inadequacies

The Shekilango road improvement and expansion prioritized vehicular movement, taking away vital outdoor and public spaces that left businesses and property owners with limited options. For instance, regarding the parking area, they redeveloped the properties to accommodate new parking spaces, often by utilizing bus stops or encroaching on walkways or shared outdoor spaces. In other cases, u-shaped forms with a parking courtyard (Figure 90) have been observed as one of the forms that are emerging in the new construction. One of the owners, who had to demolish a multipurpose hall to accommodate commercial spaces, opted for a U-shaped form with limited parking spaces.

⁵⁷ During interviews, most business owners did not have time to respond to questions as they were busy attending customers or talking on the phone. They also reported that their presence in the shop is vital for handling daily operations.

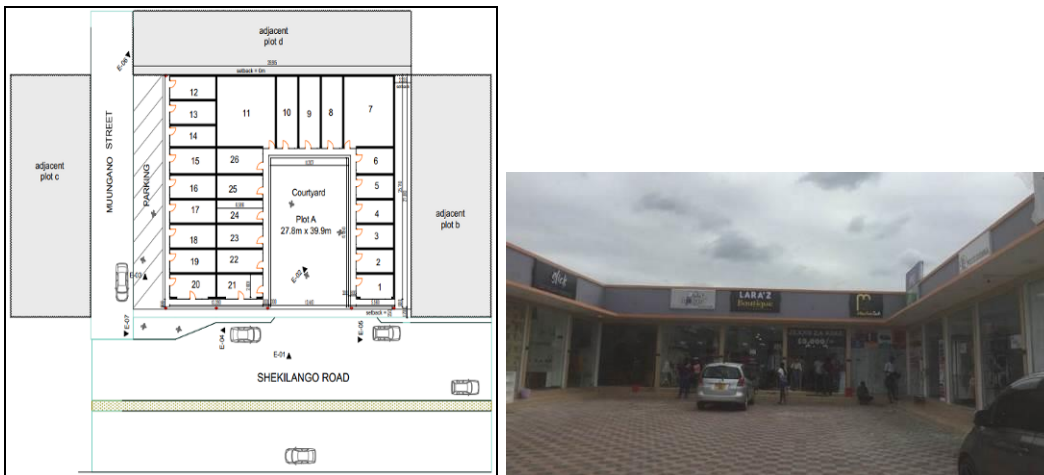


Figure 90: A U-shaped commercial space design that is gaining popularity in Dar es Salaam (source: author, fieldwork 2021).

Such approaches demonstrate that self-regulating space also provides opportunities for continual adjustment. However, it is not always the option because, at times, it may be too costly, especially if a property or recently built infrastructure, such as walkways, has to be demolished. This implies that the new environment is not resilient (Chambers et al., 1992, cited in De Satgé, 2002), i.e., it poses challenges for users of spaces to recover from and adjust to the changes (shocks). Hence, it negatively affects the physical asset.

Other improvisations for accommodating more parking space and informal economic activities come at the expense of vital outdoor recreational spaces. For instance, the encroachments on walkways and outdoor public spaces. Public walkways are often converted into private spaces for parking, motorcycle stations, food preparation areas, and outdoor seating, thereby pushing away or blocking other important activities. Such encroachments (Figures 91 and 92) and inappropriate use of space can be interpreted as a depletion of natural resources in rural areas (Farrington et al., 2002), suggesting that in urban areas, natural capital is also key. Overlooking it poses challenges in achieving sustainable commercial streets.



Figure 91: Private motorcycles for hire park at a walkway near Madukani (source: author, fieldwork 2023).



Figure 92: A bus stop at the junction of TRA and Shekilango roads is used as a private parking space and outdoor seating area for attendants (source: author, fieldwork 2023).

Such encroachments suggest that users resort to informal improvisations within their means to achieve their needs. This underlies the importance of appreciating the context, particularly the critical aspects that make commercial street spaces lively, i.e., conducive living and working areas. This suggests that parties involved, including users, must be actively engaged in infrastructure development projects because, ultimately, the infrastructure will shape and invigorate future space transformation.

Before the road improvement/expansion, the veranda (an outdoor private space) and the adjoining (outdoor) public spaces were closely interconnected as a continuum, becoming one public outdoor space where social interactions, transactions, and other activities took place. Within this space, there were undefined walkways, trees, shade, vegetational cover, and urban furniture, such as benches and chairs. The merging of the spaces, their spontaneity, fluidity, and the urban elements made it possible for a myriad of social activities to take place. By cutting down shade trees and reducing public outdoor space, projects necessitate improvisations. Users had to spend more time indoors, sitting near closed gates or closed shops, at bus stops (Figure 94), on curbstones, and stairs.



Figure 93: Residents sit and socialize under the shade of a bus stop (source: author, fieldwork 2023).

Users who used to sit under tree shades miss this opportunity because the new spaces do not support social activities. The spaces have disrupted the fluidity and continuity, creating antisocial areas. The design in which the parking spaces are immediately adjoined with the veranda, and no outdoor space, does not attract social activities; verandas become transactional (business) spaces; their multi-use character is no longer convenient or pronounced. Such developments adversely affect the quality of commercial streets, particularly in maintaining collective safety, which depends on the presence of people

sitting or standing outside commercial spaces. These findings suggest that, first, outdoor spaces are vital elements (Figure 94) for a functioning commercial street, and their multi-use plays an important role. Secondly, social interaction, an activity that has been observed as a necessary quality, should be thoroughly analyzed, understood, and integrated into urban spatial development projects. Figures 95 and 96 show encroachments on walkways. Users, such as pedestrians, often overlook these encroachments, even though they significantly impact movement and safety along the commercial street.



Figure 94: Informal workers operating a salon seated under a shade tree to avoid the scorching sun and interact with other street users (source: author, fieldwork 2023).



Fig 95 (a)



Fig 95 (b)

Figure 95 (a) A walkway turned veranda along Shekilango Road near the Africa Sana area and (b) A walkway encroached upon by a food vendor near Kwa Remi (Source: author, fieldwork 2023).



Fig. 96(a)



Fig. 96 (b)

Figure 96: A recently extended outdoor space whose events are captured during two different hours: (a) Evening and (b) Late evening.⁵⁸

⁵⁸ During the night, walkways are no longer seen as pedestrian zones. Rather, they are seen as either extensions to the commercial space or parking space (Source: author, fieldwork 2023).

The adverse effects of encroachments suggest that authorities, property owners, and the broader local community need to understand the implications of their decisions. This highlights the need for a balance between parking requirements, vehicular and pedestrian movement, and outdoor spaces. Some residents are reclaiming outdoor spaces by forfeiting their parking spaces. i.e., to expand outdoor spaces (Figure 97). Interestingly, such decisions are made even though available parking spaces do not adequately meet customers' needs. This suggests that outdoor spaces are vital in sustaining the livelihoods of some businesses.



Figure 97: A recent conversion of Sinza Fast Food parking space to become an outdoor seating area that was frequently used during the holy month of Ramadan (source: author, fieldwork 2023).

Little regard for the context led to the depletion of green spaces and may contribute to the intensification of the urban heat island. The old user-generated Shekilango road featured a fairly rich, soft landscape and trees that supported optional and social activities. Tree shades protected people from the scorching sun while soft green ground reduced glare. Additionally, the more challenging the landscape, the less comfortable it is for social and business activities to occur. This outcome may also contribute to the increase of urban heat islands.

7.2.7 Informal Co-Design Practices and Nonadherence to Regulations

Building standards and regulations are designed to regulate individual decisions and promote the optimal use of public resources. Transformers of urban spaces are expected to understand and respect them to ensure functionality, efficiency, aesthetics, and beauty in the urban spaces. Building lines not only control how the frontage of plots is used, but they also make it easy to accommodate outdoor amenities, such as providing continuous walkways across streets. Equally important are setbacks, plot coverage, and plot ratios, which help control usable space on plots and minimize congestion. Nonadherence to regulations (Figure 98), resulting from proliferating informal transformations and weak enforcement by local government authorities, leads to contested spaces, encroachments, and disharmony in street spaces.

The RoW has largely remained the same, leaving no room for accommodating outdoor amenities that might be necessary for the street's functionality.



98 (a)



98 (b)

Figure 98 (a) An aerial view of a section of Shekilango commercial street and 93 (b) A photo of the section showing plots that do not have parking spaces or outdoor space due to over-densification by residents.⁵⁹

Ninety-two percent (92%) of respondents explained that parking space is the number one requirement when looking for commercial spaces. In one of the sections that were studied (Fig. 93), it was revealed that one of the sides not only lacks parking spaces (due to the expansion of the road) but is also oriented to the west, meaning it is hot from midday to evening because there are hardly spaces left for green/soft landscape. According to respondents, the heat sometimes damages goods on display, and pedestrians find it difficult to walk along the side of the road. Had the regulating authorities done their work properly, measures such as the introduction of verandas and outdoor spaces would have been enforced to curb the problem.

During the reconnaissance phase, the streets/roads analyzed in (13) settlements in Dar es Salaam revealed that transformations, conversions, extensions to existing properties, and erection of new commercial spaces are apparent and happen rapidly. One hundred percent of the streets had commercial spaces and were transforming to accommodate new uses.

The conversions of most areas in Kariakoo, Posta, Oyster Bay, and Upanga, which are mostly large-scale, take place within the formal legal framework. This includes seeking building permits and engaging in formal construction and supervision processes.

There were also informal developments within the planned settlements; the nature of the developments within informal settlements was also mostly informal. Richness and qualities of sitting, standing, and protection suggest that, first, the city's streets develop through formal and informal processes and practices. Secondly, streets are important places for social activities and serve as public spaces with rich qualities that are achieved through tacit knowledge by property owners and users/tenants, who fill gaps left by the state in providing urban infrastructure. Users design and provide their own parking and

⁵⁹ Source: earth.google.com, accessed August, 2024 and author, 2024.

outdoor spaces, as well as trees for shade, and in some cases, build or cover stormwater channels for ease of access to parking spaces.

7.2.8 Classical Urban Design Concepts Versus Self-Organized Processes

The negotiations between users and authorities, as well as the resulting changes, suggest that in this context, self-organization can be further interpreted as "a system within and outside the state." It is a form of governance that allows informal urban development to be negotiated and regulated by the state, thereby formally including it in urban development. Despite self-organization being supported by both bottom-up and top-down processes in urban space, it presents multiple governance challenges, such as unregulated commercial space development that threatens life and property due to weak structures and inadequate land and building development controls by authorities.

As noted earlier, the resulting negotiated space that emanates from compromises among several actors often does not present a significant manifestation of urban design principles such as balance, rhythm, and order. Despite the lack of these elements, the overall streetscape does not appear chaotic. Still, it reveals unique features of African cities that are conceptualized, designed, and built mainly from below through self-organized processes. Self-organized commercial streets have revealed livelihood assets (physical and social) that contribute to urban sustainable livelihoods studies, which have not adequately addressed livelihoods in urban areas (Scoones, 1998; Farrington et al., 2002). This research places self-organization at the forefront as it directly addresses the Sustainable Livelihoods "people-centered" approach and the importance of considering context when analyzing urban built environments.

From a professional point of view, urban design principles, such as balance, rhythm, and order, may only be partially realized in self-organized streets. For instance, some of the facades, as earlier shown, are symmetrical, while other spaces are under-designed, i.e., they appear as dull rental spaces. However, attributes such as senses of smell, sight, sound, and touch in self-organized environments are vividly noticeable. For instance, the creative signage, design of colors and textures in facades, display designs, soundful music stores, and food stalls displaying food preparations all offer good experiences.

Additionally, self-organized environments are rich in other attributes, such as vibrancy and the cellular design of spaces that stimulate mental activity (Mullins, 1999; Gehl et al., 2006; Jacobs, 1974). Since such environments do not represent chaos and offer opportunities for vibrant social and economic activities, they highlight the need to acknowledge self-organized space generation as a contribution and extension of urban design principles (Horelli et al., 2015). Hence, space generation in urban sub-Saharan Africa ought to strike a balance between classical urban design principles and the tacit knowledge deployed by everyday users of space to create functional and livable commercial streets that showcase unique African features.

7.3 Methodical and Theoretical Reflections

The close interaction between the theoretical lens of complexity theory and the methodological approach of design anthropology has generated a deep understanding of how social networks of actors shape and utilize commercial-residential streets, underscoring both the benefits and challenges for the livelihoods of city residents. These offer anchor points in understanding and explaining how the built environment is generated based on actors' intuitive knowledge, such as socio-economic interests and actions, including self-organized processes taken to respond to their livelihood needs, leading to functional street spaces.

7.3.1 Complexity Theory

Complexity theory, as applied in this work, has provided a framework for understanding and critically discussing the dynamics of self-organized urban development processes. In this case, specifically in the use of spaces such as the veranda in commercial streets. It showed businesses and actors as systems that support and come together to address spatial and socio-economic needs. Complexity theory has also highlighted the individual and collective actions that existing property owners and users take to counter top-down decisions that undermine their needs, such as their livelihood assets. Tensions among actors as they interacted, were also highlighted using the design anthropological approach. According to Ingold (2015), such tensions are a daily occurrence when businesses or users coexist. Through close engagement with property owners and other stakeholders, social networks and co-design/space generation dynamics within the community were revealed. Hence, the combination of the design anthropological approach and complexity theory made it possible to analyze the self-organized spaces from below, whereas complexity theory helped to gain insights into the dynamics inherent in informal space development and processes. The components of Complexity theory, namely non-linearity, co-evolution, and individual and collective action, are discussed below.

Component 1: Non-Linearity

Complexity theory, as the primary lens of this study, has revealed that informal practices along commercial streets, self-organized by residents, are intended to improve and safeguard their livelihood needs. Informal processes are a vital component of the spatial development of cities in Africa (Kombe, 2017; Kombe & Kreibich, 2006). It is worth noting that it is vital that the processes remain dynamic (non-linear) to allow creative interventions by property owners and other actors who can overcome scarcities in urban environments. This is the first component of complexity theory.

When examining the implicit and explicit self-organized processes, a connection is found between complexity theory and dynamic urban processes. Through implicit self-organization, residents learn to test, adjust, and copy ideas in a dynamic way (Boonstra et al., 2001), where spaces are converted, extended, demolished, and rebuilt. Through explicit self-organization, residents challenge top-down approaches and modify proposals developed by authorities; the participatory design practice is also dynamic in itself. Road improvements continue after the road construction is completed, during which residents negotiate to ensure their spatial needs are met. Ingold (2015) argues that such tensions (between residents and authorities) contribute positively to human interactions and serve as a means by which human and non-human actors adjust through compromise in contested spaces.

The fact that vehicles can coexist with pedestrians and motorcycles suggests that improvements or modernization of urban space in sub-Saharan Africa should go beyond rigid state-driven regulations. Expanding or reconstructing roads without understanding the inherent space-use dynamics, as reiterated by Tsing (2017), disrupts instead of adding usable space to what is already there; in turn, the reconstruction does not adequately address what is scarce in urban environments. When a timely participatory design is tailored to fit such contexts, more delicate interactions amongst authorities, professionals and users can guide urban development for the benefit of all. This approach addresses the post-structuralist and critical realism philosophical dimensions regarding 'evolution' and 'becoming' which can complement top-down urban development processes.

Component 2: Co-Evolution

Complemented by Ingold's (2015) idea of "lines," the interdependencies of actors through their networks and on things such as outdoor amenities or assets (covered and shaded spaces and parking) reflect systems and subsystems. Not only do residents depend on one another in self-organized processes, but their businesses also support one another, as evidenced by the case of the car wash and bar facilities. The tensions that exist between businesses that affect one another and between human and non-human users of space (particularly on walkways) and the compromises and negotiations lead to a coexistence that needs to be understood as an important compromise and a part of urban development in African cities. This important finding suggests that, over time, businesses thrive through familiarity, friendships, and tensions.

When businesses are affected and forced to relocate, livelihoods are also impacted, as it takes time to rebuild trust, establish mutual interests, and foster cooperation. Participatory design in such contexts should not only try to integrate users' self-organized qualities but also view commercial spaces as diverse, self-created, and interdependent systems that support livelihoods and contribute to both macro and micro-economies.

Navigating urban commercial spaces in the warm, humid climate of Dar es Salaam makes private transportation an essential need. Shekilango Road, being popular and comprising mid-to-high-end commercial spaces, attracts shoppers who largely use private vehicles. Thus, livelihoods and activities depend on the availability of adequate and convenient parking spaces. When the latter is reduced or ignored, the business environment (system) is disturbed.

Equally important are the outdoor shaded spaces. As shown, commercial streets function as public spaces, making shaded areas a necessity for commercial spaces. Its multipurpose usage compliments the functions of a commercial space. Resting, socializing, transactions, negotiations, storage, display, and the like occur within such spaces. More studies are needed to investigate the viability of expanding roads or converting them into public spaces so that interventions can better reflect the greater public good (Ghazi et al., 2019). In this sense, this study neither encourages prioritizing the vehicle as it may not be a sustainable approach, nor imposes the need to prioritize public space since other concerns, such as traffic flow, are also vital. Instead, it calls for a need to view commercial streets as a composition of systems that depend on one another (social and economic networks) as well as on other elements (i.e., outdoor amenities). This may lead to approaches that may help to balance the critical aspects of the street.

Component 3: Individual and Collective Actions

The third component is observed in residents' interventions through negotiations with authorities that triggered participatory design processes. These processes occur when residents, either individually or collectively, react to top-down spatial developments and reflect the capacities they possess as primary actors in urban development on the other hand. This argument demonstrates explicit self-organization. On the other hand, residents' capacities are reflected in their implicit collective actions in which they slowly and informally co-design commercial spaces and gradually transform residential streets into flourishing commercial street spaces. Such actions demonstrate capacities that should not be overlooked in spatial development, particularly in contexts where low-key and non-professional actors utilize tacit knowledge and their networks to overcome what is scarce in built environments (Hall, 1989; Lupala, 2002; Moudon, 1997; Van Meerkerk, 2013). These actions that lead to high-quality urban commercial

streets and spaces should be analyzed, acknowledged, and integrated into urban development. In so doing, when professionals and authorities tasked with planning and designing roads consciously work with, rather than around, residents' contributions (Tsing, 2017), spatial development projects in sub-Saharan Africa will be an extension of conventional urban planning and design. When self-organization comes to the fore, before the interests of professionals, authorities, and donors/developers, African urbanism will have contributed to expanded urban planning by focusing directly on local communities rather than relying on collaborative theories that are not always efficient (Horelli et al., 2014).

7.3.2 Contribution to Theory: Social Production of (Commercial) Space

The three levels of Lefebvre's (1991) theory of the social production of space are manifested in how people, as a society, envision space, particularly professionals who work independently. Planners who are responsible for designating land uses, i.e., residential vs. commercial use, often do not critically reflect on the role roads play in shaping the use of space at the street and housing cluster levels. On the other hand, users perceive roads and streets as spaces that foster their socio-economic needs, including livelihood activities. The development process has limitations (such as standards and regulations) and opportunities (informality), both of which are compelling and influence users to self-organize and create functional spaces. Between limitations and opportunities lies the intertwining of formal and informal land development. While local communities informally generate and shape urban space, authorities tasked with enforcing formal standards and regulations largely look the other way. This is the first level – "*spatial practice*," i.e., a society's collective way of generating space.

The second level, "*representations of space*," is evident in how the reality of urban life is often overlooked by professionals, such as planners and others tasked with improving urban infrastructure. When conceived in isolation from users' needs, space fails to capture what is on the ground. Lefebvre (1991) terms the second category as the most dominant one. In the Tanzanian context, judging from the informal creation and use of space across the street, space undergoes significant changes through appropriation by various actors for different purposes. The reality opens up a dialogue as the space envisaged, planned, and designed by professionals becomes significantly transformed and used informally by users and non-professionals, ultimately dominating the commercial street fabric. This study has shown that in the urban African context, the third category of space (representational space), or lived space, dominates the urban fabric, as residents proportionately occupy a higher portion of the built environment and transform it to meet their needs, including livelihood activities.

Last is the third category of space – "*representational space*." Spaces that evolve are informally conceived and created by users. It is also a category that is primarily developed through self-organization. This category demonstrates that local transformers possess the skills and knowledge they deploy to create space for various uses and needs. However, these skills and knowledge are not codified and have not been leveraged, suggesting that participatory design could play a role. Thus, it should be engaged by having professionals, developers, authorities, and users of the space work together to co-produce commercial street spaces. This approach, therefore, reconfigures the universal participatory design as was observed in Europe (Irene et al., 2011; Romeau, 2017), where participatory professionals engage citizens by proposing that property owners or users "participate" professionals and authorities. To mitigate tensions between representational spaces (i.e., lived spaces) and representations of space (spaces designed and provided by professionals), participatory approaches that position professionals between residents and authorities to address citizens' initiatives are vital (Goodspeed, 2015; Day et al.,

2003).

The Negotiated Lived Space

Lived space, which is mostly informal and self-organized, is created through dynamic processes that are unpredictable. The processes pose challenges in identifying the appropriate options or solutions for addressing future needs, as the fluid processes cannot be projected or predicted. As such, the fluidity and the generated spaces reflect the "representational spaces" (user-generated lived space) in the theory of space production, as well as "non-linearity," i.e., dynamic urban processes of complexity theory. Residents respond to the context and changing needs in the urban environment by improvising and transforming spaces using both implicit and explicit self-organized practices. They continue to adapt and reshape it as needs and opportunities arise. In doing so, users interact and, at times, contest. Gradually, they generate street spaces with desirable attributes, such as qualities for sitting and staying, which support necessary, optional, and social activities. These dynamic processes and the resulting streetscape represent multiple negotiations, compromises, and, at times, disagreements (both long and short-lived), leading to "a negotiated urban space" (Okello, 2013). This is a space where users negotiate and decide informally and spontaneously on how to shape and share the space for the benefit of each party. As such, these processes, although not formally guided or regulated, should be acknowledged as an important and indispensable pathway of spatial development in the cities of sub-Saharan African countries.

7.3.3 Design Anthropology – the Methodological Contribution

This research has contributed to the body of knowledge in design anthropology through the methods used during the five phases of data collection. Due to the constraints during data collection, which included the busy schedules of the would-be respondents and their unwillingness to cooperate, the design-anthropological approach had to be adapted to the context, i.e., shadowing and working with the respondents by assisting them in their daily activities. Becoming an assistant to the business operator and collecting data while co-working by assisting interview respondents involves tasks such as packing purchased commodities, welcoming or handing over bags of commodities to customers, and so on, which encourages participation from the respondents. Actively assisting the busy respondents portrays a deep concern for participants' time and livelihood needs. In that sense, such casual and considerate methods are vital when a researcher must collect information through interviewing and observing respondents who do not have time and must concentrate on their livelihood occupations, which demand their attention.

Using shadowing and other methods, design anthropology made it possible to establish close encounters between actors (space transformers) interacting with one another in the process of self-organization. Activities such as eating, shopping, driving, and casual conversations turned out to be useful methods that revealed information that would have been difficult to obtain through basic research methods, such as interviews, sketching, and photography. Findings from the extensive shadowing and subsequent interviews with the owner of multiple businesses revealed how design anthropology can uncover information that is often hidden.

7.4 Chapter Summary

From the synthesis, tensions exist in the hybrid spaces that result from self-organized processes. Despite verandas and parking spaces playing a role in commercial space operations, they cannot be endlessly produced as they also affect public space. The way information is transferred to residents, the design process and how users interact with professionals and authorities poses questions on how participatory

design can offer opportunities for more active interactions in this context. Even though the top-down road expansion has limitations and posed considerable challenges to users, it has significantly improved Shekilango Road. Users' informal processes and violations, encroachments, space use, users' behaviours and responses threaten public use, suggesting that more active involvements amongst key actors are vital. Through ethnographic methods, design anthropology has revealed deeply rooted information that would have been difficult to obtain using interviews only. Critically, the production of space in the African context and its character are not similar to other contexts. Based on these findings and reflections, in what follows, the conclusion, recommendations and areas for further research, are discussed.

CHAPTER EIGHT

CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

This chapter summarizes and reflects on the study's main observations in relation to the research issue and questions. It discusses ways in which residents' actions contribute to the qualities of self-organized commercial streets, involving both human and non-human actors. In line with the contributions that result from tacit knowledge, it also challenges the status quo, i.e., it questions the validity of employing universal participatory design trajectories and top-down approaches in city creation. As this study does not intend to sugarcoat or romanticize residents' actions and aspirations nor dismiss the role of donors and public authorities, it also illuminates approaches that can be sustainable while balancing the needs of key actors. This chapter also discusses how tacit knowledge leads to qualities of streets that ought to be acknowledged and integrated into spatial development. Lastly, it presents areas for further studies.

8.2 Conclusion

No matter how good the intention is, authorities and other actors working through top-down processes often miss their aim when they perceive road infrastructure improvement as largely for vehicular space, downplaying the relationships with residents' urban realities and their perceptions of what is lacking in their environments (Till, 2009; Tsing, 2017). Nonetheless, no matter how much user-generated spaces (which are mostly informal) cater to the needs of urban residents, their endless generation may not be sustainable. Timely negotiations between residents and authorities can lead to more nuanced interventions that fill the gaps left by self-organized processes in a sustainable manner. As discussed by Winschiers-Theophilus et al. (2010), when participatory design starts from, taps into, and further elaborates on self-organized co-design processes and qualities, it may lead to more diverse understandings of participatory design in cities of sub-Saharan countries.

Employing methods such as design anthropology in studying the everyday ways and actions that lead to the design, building, and occupation of spaces can be a starting point for formulating approaches and tools for a deeper understanding and more nuanced analysis of user-generated environments governed by regulations. This can enable essential guiding tools, such as identifying complex consumer behaviors (Verhetsel et al., 2022), as well as understanding the dynamics of space use involving multiple actors, including young and old residents, passersby, and non-human entities. In today's rapidly changing and technology-driven world, where the space and retail landscapes are constantly evolving, such methods are vital. This will enable African urbanism to address multiple agendas, such as sustainable commercial street development and retail landscapes based on global standards and patterns while accommodating local needs.

Given the busy schedule of tenants and landowners due to the nature of their livelihood activities, having participants engaged in processes through co-design (conventional) methods that have been employed in other contexts, such as storytelling and group sketching (Varma et al., 2020), can be time-consuming and may not address deeply rooted livelihoods assets. In this context, where design outcomes result from overcoming scarcities such as a lack of outdoor amenities and tools for designing spaces, calls for approaches that enable active, participatory engagement. Methods such as on-site identification of critical livelihood assets, on-site design discussions and negotiations, and testing proposals (Figure 99) can

balance the needs and intentions of users and authorities, guiding authority-professional-user interactions. The primary objective of such an approach should be to identify what truly lacks in user-generated environments, as well as to reveal the necessary compromises and trade-offs that pave the way for sustainable infrastructure development. Such an approach is more rational and reasonable (Iossifova, 2013) than conventional participatory design approaches, which may not adequately address what is on the ground.

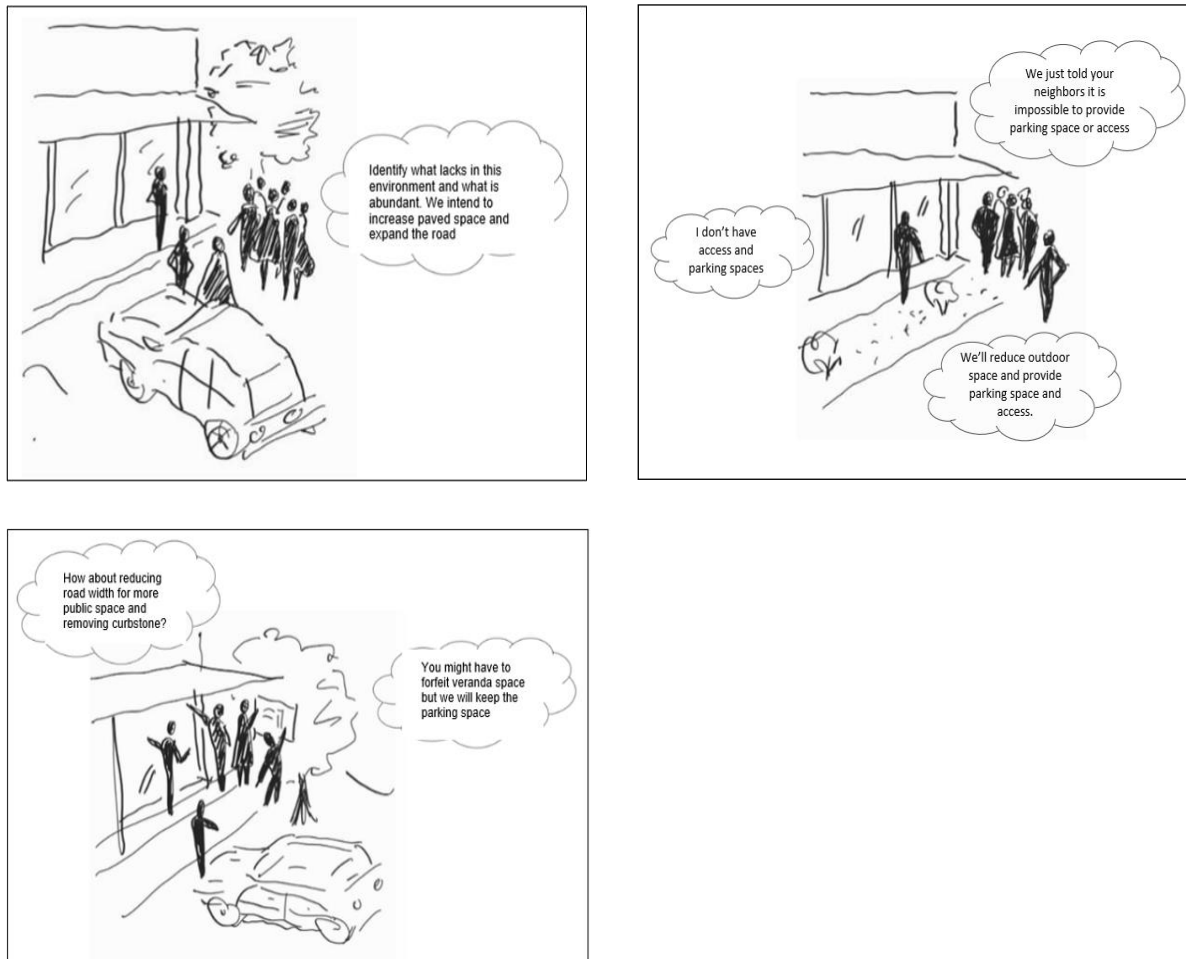


Figure 99: Possible on-site participatory design interactions for identifying users' needs, trade-offs, compromises, and opportunities and discussing and testing the design and negotiations (source: author, 2023).

Regarding research question one, the space generation process is conducted intuitively by imitating others, as well as utilizing social media and co-designing with other users to support livelihood needs. This process (referred to as implicit self-organization), as discussed earlier, employs intuitive knowledge and skills. Another process (explicit self-organization) involves space appropriation (which at times violates regulations), informal extensions, conversions, and new constructions. Explicit self-organization also entails using networks among users of spaces to initiate change by reacting to the outcomes of top-down urban development processes. Despite authorities and professionals making key decisions on infrastructure improvements without adequately involving the users of these spaces, a participatory design process involving these actors was carried out after on-site interactions and negotiations. This suggests that such contexts may offer more appropriate and timely opportunities for active resident engagement if the process is formally conducted before the design and construction of urban

infrastructure. This finding addresses research question one, exploring how actors interact in the generation of self-organized commercial streets.

Regarding research question two, the qualities generated by users reflect attributes that are often created by professionals in other contexts. Such qualities championed by urban theorists include senses (touch, sight, feel, and smell), diversity, cellular spaces, and qualities for sitting and protection, as well as opportunities for socializing (Gehl et al., 2006; Jacobs, 1974). Through amenities such as verandas and parking spaces with multiple uses, streets become safe, active, and livable spaces (Gehl, 1987) without the need for professional engagement or direct inputs. This is evidence of how non-professional actors, utilizing tacit knowledge, generate functional and visually appealing spaces largely in the absence of professionals, suggesting that movement spines in urban Africa should be viewed beyond the role of moving traffic. Instead, their qualities make them rich public spaces for all (Planning, 1998; Priyan et al., 2017). Nonetheless, some of the spaces threaten public use and sustainability concerns and call for closer interactions between professionals and users. In that sense, qualities for sitting, staying and protection, diversity, richness and visual appearance should be encouraged in the future design of commercial streets. A set of tools for users (landlords and tenants) to guide their urban transformation processes is vital. A leading role by authorities in guiding urban development can be a starting point towards a participatory approach that addresses sustainability as well as public interest. This finding addresses research question two, which explores the nature of the qualities of self-organized commercial streets and how they inspire inclusion in the future design and planning of commercial streets.

Regarding research question three, instead of participatory design processes enabling or facilitating a close dialogue between institutional actors and professionals with little or no regard for the substantive engagement of residents, there is a great need for tools that can identify the opportunities and constraints in self-organized environments and facilitate users - as initiators of most urban planning (co-)/design processes. This can help build on their assets to forge a closer dialogue to identify social assets, including interdependencies and socio-economic networks, as well as physical assets, such as qualities for socializing, protection, seating, diversity, and the visual characteristics of the streets. With the help of such tools, informed by planning standards and regulations, owners and users of commercial street spaces can be assisted in addressing critical challenges, including nonadherence to regulations and informality, which can lead to over-densification and congestion that may threaten public amenities, as well as increase ventilation and lighting needs. Participatory design in this context should entail on-site interactions amongst key actors to discuss, negotiate and test proposals. Such interactions can be a more delicate way of addressing and negotiating the trade-offs and compromises by each actor. It is also a more delicate way of transforming each actor's perspective.

Professionals and authorities can adopt a more nuanced participatory design approach by first utilizing methods that analyze and accurately describe key statistical and social consumer behaviors, such as community detection models. This enables interventions that reflect current retail dynamics and context-sensitive infrastructure considerations for amenities such as parking spaces. Hence, participatory design in these contexts ought to support a close interaction between professionals, authorities, and users, leading to a deeper understanding of the built environment in question (Day et al., 2003; Scoones, 1998; Mohammadi, 2010). This finding addresses research question three, exploring how self-organized qualities can inform future participatory practices. Table 26 summarizes how the findings have addressed each research question.

Table 26: How the Findings Respond to the Research Questions

S/N	Research question	Findings	Remarks and implications
1	How do actors interact and generate self-organized commercial streets?	- Landlords and tenants co-produce spaces through tenancy and construction processes involving professionals and authorities. - Over time, users produce spaces by testing different business ventures, learning from the environment. They use different social media to design and articulate their spaces. - Participatory design among users, professionals and authorities takes place during implementation of spatial development projects.	- There is little involvement of professionals, and authorities give self-organized processes a blind eye. - Users and LGAs are not adequately involved in decision making. - State-driven/top down processes largely overlook residents' preferences and interests. - Users informally co-produce spaces.
2	What are the qualities of self-organized commercial streets in Dar es Salaam, Tanzania, and how can they inspire and inform future planning and design of urban commercial streets?	- Qualities for sitting, staying and protection. - Diversity, richness in display, senses, signage and visual appearance. - Multiple uses of the veranda and outdoor amenities. - Over-densification, congestion due to violations and informality.	- Qualities for sitting, staying and protection, diversity, senses and visual appearance should be encouraged in design and planning of commercial streets. - Over-densification and other problems call for closer interactions and tools for guiding residents. - Authorities should play a leading role in managing urban development. - Qualities are interpreted as unique African features and an extension to planning.
3	How can we develop participatory design approaches that tap into actors' interactions, networks, and qualities of self-organized commercial streets?	- Users, professionals and authorities (LGAs) acknowledge the importance of timely participation and active involvement. - Contextualized PD should involve on-site interactions involving authorities, users and professionals as opposed to PD trajectories that require time and other resources. - Feasibility studies and actors' interactions to adequately address critical issues such as socio-economic parameters, and align with the design and road expansion.	- Participatory design should connect the different actors to learn from each other and balance the needs of each. - Using tools, PD in this context can address sustainable design and planning of commercial streets as well as the broader public needs. - Deployment of well-informed multi-disciplinary teams for understanding networks and assessing qualities that are worth integrating. - Policy improvements on Public Procurement approach, as well as in the Land Development Policy.

Hence, this research has addressed the research questions posed and recommends that the generation of urban space should acknowledge residents' actions based on intuitive knowledge while addressing sustainability and public concerns. As such, the study proposes that residents' actions be guided by tools that interpret governing regulations which control urban developments. Participatory design in this context should be based on timely and close interactions between the key actors in the environments that users create over time. This approach supports not only the democratization of urban planning, which advocates for the incorporation of unheard voices into urban space generation, but also proposes that participatory design play a leading role in enabling everyday actors and institutions to connect, work together to tap into each other's experiences and delicately transform each other's perspectives.

8.3 Policy Implications

Policy implications emerge from the findings and synthesis of self-organized processes and spaces. Self-organization that needs to be acknowledged in urban planning, including the knowledge and skills deployed and the contextual qualities generated by non-professional actors is discussed. Other critical areas are the procurement of professionals in civil works and the governance of self-organized commercial streets.

8.3.1 Acknowledging the Processes, Knowledge, And Skills Inherent in Self-Organization

As previously noted, urban planning and self-organization have a conflicting relationship; the former often fails to acknowledge the contribution of the latter to city creation and urban development (Horelli et al., 2015). In urban Africa, where many actors, including residents, have the capacity and tacit knowledge to shape the built environment (Portugali, 2000), urban planning ought to take into account residents' efforts and expertise that produce results that not only sustain livelihoods but also generate livable/workable rich streets (Edjabe and Pieterse, 2011; Simone, 2010). This research highlights the need for political and technical will to recognize the skills and knowledge of non-professional individuals in shaping their working and living spaces per their needs and preferences. In doing so, urban planning and design in this context can contribute to Sustainable Development Goal No. 11, specifically sustainable cities and communities.

8.3.2 Understanding and Acknowledging the Contextual Qualities as Public Needs and Assets in Urban Spaces

Depending on political will and based on the experts' potentials and limitations, the physical environment that professionals design with and for can either be attractive or unattractive to the different users of space. Professionals can either positively or negatively influence the built environment (Van Wolputte et al., 2022). For instance, they can shape mobility within and between spaces, as well as influence outdoor physical amenities, such as increasing or reducing green public space and contributing to urban heat islands.

This calls for professionals to be widely informed about the local context, particularly the strengths and limitations when they are involved in tasks that influence public spaces. Professionals tasked with planning and designing cities should have a deeper understanding of the context within which they work (Day et al., 2003; Iossifova, 2013). This means that they must engage with residents, users, and authorities to understand how to balance the project's overall goals with the needs of everyday space usage.

The provision of walkways appears to have been done to fulfill the main project agenda, i.e., to improve mobility, especially for vehicular public transport and pedestrian movement. However, due to the disregard of the disconnection between the commercial spaces and walkways, walkers and shoppers were affected. A thorough analysis of the walkway's appropriate position with respect to connectivity and proximity to major functional uses, such as commercial spaces, should have informed the design. This would have enhanced both the walking experience and the visual experience (Bahendwa, 2017; Gehl et al., 2006).

Furthermore, an analysis of what needs to be prioritized, i.e., vehicular movement and/or balanced public outdoor amenities, is also crucial. This would mean striking a balance between the optimal width of the

road and the integration of necessary and appropriate public amenities. For instance, balancing the dual carriage width with outdoor public and private spaces to enhance both vehicular movement and social activities. There was uncertainty as to whether DART would be implemented along Shekilango Road. Suppose it is implemented, as mass public transport needs become increasingly critical as a city grows. In that case, there should be careful consideration of mobility concerns and amenities that support socio-economic activities, especially local livelihoods.

Urban development policies should build on the contextual values inherent in the local social, economic and environmental imperatives. This will mean developing a deeper understanding of residents' needs and values before decisions are made. In the African context, conventional planning and global agendas should go beyond focusing on limited mono-interests.

Professionals should thoroughly analyze the built environment and interpret varying interests based on the inherent contextual imperatives. The outdoor amenities (parking and public space) ought to be viewed as physical assets for supporting businesses.

Additionally, the interrelations and interdependencies supported by self-organized diversity ought to be viewed as social assets. These are critical contextual needs that authorities and professionals need to understand to seek ways to integrate them into urban infrastructure provision and improvement in a sustainable manner. Instead of prioritizing road expansion (vehicular traffic), the role the road plays in the basic needs of urban residents and users' initiatives should influence the design and expansion of infrastructure services (Ghazi et al., 2019).

8.3.3 Professional Expertise and Procurement of Civil Works

The clients (Kinondoni Municipality) of the Shekilango road expansion project engaged engineering consulting firms (HP Gauf in association with NIMETA Consult (T) Ltd) to design the road. The firm was also responsible for conducting feasibility studies and producing detailed drawings. As engineering firms, their expertise was vital, as they were responsible for investigating and coordinating all engineering components, including electrical, water supply and drainage, ICT, and telecommunication systems. As a road expansion project along an existing local road with multiple engineering systems, it was vital to engage an engineering firm. However, the analysis revealed that the team comprised of civil-works experts. This task would need other professionals. Urban designers, planners, and architects were not involved throughout the whole design process. Their absence later proved challenging during implementation.

Despite the road expansion being a civil work, community involvement could have addressed critical issues had professionals with the required expertise, such as urban designers and architects, been involved or if the specialists who were involved, such as sociologists, adequately addressed key issues. In that sense, this challenges traditional procurement practices for civil works, particularly the improvement of roads that are already operational. This would require a multidisciplinary team of professionals, and the terms of reference (ToR) should encompass more than just technical engineering expertise. Contents of the feasibility studies and the methodology for executing such projects should ensure that a delicate approach is sought and monitored throughout the duration of the project. Professionals with the necessary expertise can help integrate critical aspects, such as livelihood assets and livability parameters, i.e., the social and physical assets (URT, 1997). This would involve decoding the socio-economic

networks, as well as the needs and preferences of users, in the creation and usage of spaces that support their daily livelihood activities. Thus, improvements of section IV (methods of procurement and processes) of the Public Procurement Act, Cap 410 (2002), may lead to procurement of multi-disciplinary teams whose collective expertise can decode the limitations and contributions of key actors to achieve streets that cater to the needs of both authorities and users, addressing the higher needs, including livelihoods and livability.

8.3.4 Governance: Tools for Supporting Participatory Engagement in the Design and Construction Processes

The informal generation of commercial spaces was partly influenced by the high demand for livelihoods, i.e., commercial space premises, and overcoming scarcities in the environment, i.e., under-provision of amenities. This influenced informal design practices and the use of RoW to accommodate functions that support livelihoods or business operations. These functions include parking and public spaces. The municipal authorities paid no heed to this thereby giving rise to further informal practices.

The government should regulate design and provide frameworks to support the participatory engagement of stakeholders. This calls for improvements in the Land Development Policy (1997) by MLHSD. Even though the policy states the need for involving residents in decision making, mostly in unplanned areas, it is silent on infrastructure improvements particularly along existing commercial streets. Policy statements of such an addition can advise the use of design guidelines and tools for the governance of roads and other infrastructure. Such governance tools should utilize methods that connect authorities, professionals and users. Meetings that only inform residents of upcoming and ongoing infrastructure projects miss the main aim – participatory design. Ethnographic methods can be adopted by professionals and authorities in contexts where users may not have sufficient time to cooperate fully. Furthermore, the construction of existing infrastructure should follow a more delicate and subtle intervention, as observed in the upgrading of infrastructure in informal settlements, which essentially integrates existing socio-economic settings that are user-generated.

8.4 Recommendations

The recommendations discussed emanate from empirical findings and the synthesis presented and reflect approaches for designing and planning commercial streets in the context of African cities characterized by widespread urbanization and informality on one hand. On the other hand, the recommendations also address the interrelations and interdependencies among actors, which serve as social assets of livelihoods, as well as the power constellations among the various actors.

8.4.1 Actors' Interrelations

Professionals should act as a link and a bridge between users of commercial street spaces and authorities responsible for managing urban development. Non-professionals need planning tools and support as much as authorities need a clear understanding of spatial parameters and livelihoods in commercial street spaces. This is vital in creating urban developments that balance the needs of key stakeholders and beneficiaries (Jagtap, 2022; Chien, 2017).

Professionals, authorities, and policymakers need to tap into intuitive knowledge to design and construct commercial street spaces that foster public life, and vibrancy and promote livelihoods. By doing so, informal urbanism in Africa will introduce a dimension that reflects what urban theorists have championed

as livable commercial streets, as it will reflect the everyday experiences of users (Gehl et al., 2006; Al Odat, 2021).

As fulfilling as informal design may be to residents, more participatory approaches are needed (Winschiers-Theophilus et al., 2010) to create sustainable commercial streets, as they influence the livelihood activities of users. Residents need to understand the importance of standards and regulations as much as authorities need to understand the needs of property owners, tenants, and developers.

8.4.2 Pro-Active Actors' Involvements: Bottom-Top Participatory Design Approaches

Participatory design should start from the bottom by addressing residents' critical needs. Since informality is the norm (Moshi, 2009), appropriate participatory design approaches can be developed for actors, enabling spatial development in the African context to involve all key stakeholders actively. Participatory design should be a norm in spatial development, allowing key actors to learn from and inspire one another.

In this particular context, where residents have the capacity to transform space in the absence of or with limited involvement from professionals and authorities, participatory design should prioritize actively bringing together these key actors (Lupala, 2002). This approach should ensure the implementation of spatial design proposals to eliminate conflicts, such as encroachment, under-provision of amenities, and the blind copying of Western concepts and standards into existing urban developments. The values that are achieved over time and are part of such streets need to be well understood and should be seen as a basis upon which such streets can be designed in the future or further developed.

Local organizations that support active local involvement are vital in urban areas (Lyons et al., n.d., p. 6). As discussed earlier, tenants and owners do not have any formal organizations where they can meet and discuss matters of mutual interest. Instead, they informally and independently organize themselves using skilled communicators or join hands with friends who are fellow business owners. Despite this arrangement being successful, it could be more formal (Nnkya, 2006). This suggests that interrelations based on social, economic, and governance components, as advocated in complexity theory (co-evolution), are necessary for self-organized commercial streets and should not be ignored. With such organizations, meetings or participatory sessions can be held to achieve collective results on the other hand. On the other, they can safeguard residents' contributions to the built environment (their physical assets) as well as their socio-economic networks and interdependencies (social assets).

8.4.3 Contextual Approach in Existing Self-Organized Urban Commercial Streets

The numerous hybrids that continue to develop in self-organized, co-created urban spaces demonstrate that the analysis and generation of space should be context-sensitive, inherent in different geographical settings, to build upon the already established daily socio-economic realities of urban environments (Scoones, 1998; Iossifova, 2013; Boonstra et al., 2021). This approach ensures the generation of inclusive urban spaces that can significantly address the critical needs of users, as well as the Sustainable Development Goal (No. 11), which advocates for sustainable cities and communities. In this particular case, where citizens are responsible for generating spaces, it is crucial to adopt an approach that supports livable, active, and attractive urban spaces and streets.

Narrow and cellular commercial spaces that dominate the commercial street allow for the observation of different commercial spaces changing within a short time as one moves along the road, thereby stimulating mental stimuli. A commercial street that enhances mental stimulation should be encouraged when professionals and authorities tasked with designing or improving urban infrastructure carry out such projects. Commercial streets should also support diversity and foster interdependencies amongst a variety of businesses and users. The conception of the veranda as a significant hybrid space between the street and commercial spaces is an essential concept, as verandas often function as multipurpose areas rich in amenities that support urban life.

Equally important is the parking space, which has expanded beyond its mobility function to become a meeting space for self-organized informal economies, such as motorcycle and tricycle operators (Thi et al., 2010). Instead of separating functions in streets, they should be considered in their hybrid and constantly evolving nature as co-designed meeting spaces that define the street's livability (Roth et al., 2015). This calls for a more active involvement among professionals, authorities, and users, and, most importantly, a deeper understanding of the material, social, and economic aspects in order to propose sustainable parking models that do not threaten livelihood activities. Methods such as community detection (Verhetsel et al., 2002) can help illuminate approaches that can lead to more appropriate and context-sensitive retail environments. Similar to such models, feasibility studies should address critical aspects including livelihood assets, and should guide the design process.

Since the unguided, informal, and spontaneous spatial developments and self-organized practices in sub-Saharan Africa lead to spaces that meet the needs of both human and more-than-human actors (Lighthelm, n.d.; Van Aswegen, 2023), these processes must be understood and acknowledged. Being "negotiated spaces," they echo "*understanding*" rather than "*solving*."

8.4.4 Hybrid Commercial Street Spaces

Urban spatial development should strive to remain hybrid in the sense that the state provides space formally and users appropriate it, negotiate, and make compromises to meet their desired needs. When authorities, professionals, and users are actively engaged in hybridizing spaces, they can facilitate development and participatory approaches that encourage both private and shared use, benefiting key stakeholders. For instance, verandas (which are largely private), private parking spaces, and bus stops can become public spaces at different hours of the day to encourage vibrant activities along commercial streets throughout the day while remaining unoccupied during other times. Such compromises and trade-offs can significantly reduce tensions and contribute to the sustainable and democratic use of space. In doing so, urban development in the context of sub-Saharan African cities can reflect an approach that integrates intuition and tacit knowledge, as well as rules and regulations, to address sustainable concerns. Thus, when governments intervene, they should adopt strategies that tap into this knowledge. Such approaches may mean forfeiting public spaces, including RoW, as was the case with the North-South corridor in Belgium, where a road was narrowed to discourage vehicular use and emphasize pedestrian and public use.

As pointed out earlier, the future use of the median should be a subject of discussion to balance the needs of residents and vehicular traffic against the right-of-way (RoW). By doing so, authority-driven infrastructure developments will move beyond the old narrative of having RoW remain strictly untouched. When the narrative shifts to a "people centered" approach, self-organized practices can redefine urban

development and achieve a closer approximation to reality – street qualities that enrich urban environments according to the needs of the context (Planning, 1998). This strategy not only places self-organisation at the forefront, but it also cements the inclusivity of resident-initiated spatial parameters and minimizes the rigidity of regulatory frameworks and top-down spatial development approaches.

8.4.5 Commercial Street Qualities and Complementary Functions

There is a lack of research on streets regarding their function as public spaces (Prelovskaya et al., 2007). Research indicates that there are limited studies on streets in Tanzania, which primarily address global agendas rather than urban realities (Babere, 2015). There needs to be an analysis of the type of movement spine and the kind of commercial activities it attracts in order to decide on the provision and design of the plot and outdoor public space, specifically to adequately accommodate commercial spaces and amenities (Levinson et al., 2007; Planning, 1998).

Urban development should address more sustainable design approaches. Shades and green landscapes can improve outdoor thermal comfort while limiting or discouraging the use of vehicles, encouraging walking and staying, and also making commercial streets places for all, including both vehicular and non-vehicular users (Ghazi et al., 2019; Mehta, 2015). In addition, such an approach might eliminate the idea that Sinza retail outlets are for the elite.

In contexts with scarcities in the built environment or limited state involvement in guiding and facilitating urban spatial development, users self-organize to create environments that support their everyday livelihood needs (Boonstra et al., 2011). In doing so, they develop qualities in terms of display, aesthetics, and conduciveness for sitting, staying, and accommodating various activities (both necessary and optional, as well as social). These are qualities that professionals should design with, for, and around, not against. Spatial developments that neglect such qualities disrupt progress and undermine sustainable development, particularly when authority-driven proposals adversely affect the livelihoods of businesses that thrived prior to the developments (Tsing, 2017).

To integrate self-organized qualities, professionals and authorities should interact with the environment alongside residents in participatory design brainstorming sessions on-site to identify what is lacking (scarcity) and what is already achieved and working (abundance). This will mean that authorities and professionals should be willing to participate alongside residents rather than themselves or professionals becoming initiators and participatory design experts (Bratteteig et al., 2014).

8.4.6 Urban Design Approaches for Generating Functional and Sustainable Urban Spaces

Informal activities, which gradually develop and transform the frontage of plots, often leave inadequate space for accommodating outdoor amenities. More studies in urban areas should be conducted to identify future development patterns of roads and streets, thereby proposing development standards that address particular local contexts. Plots located along streets or roads should be designed to accommodate both current users' needs and preferences, as well as future transformations. For instance, designating zones for different uses and establishing well-defined building lines that leave adequate space in the front part of plots are vital for ensuring that plots provide sufficient outdoor private and public spaces (Bacon, 1976; Jacobs, 1993). They can also help restrict developments that may affect the present and future use of space along commercial streets.

Building lines also play an important role in mobility, i.e., pedestrian and vehicular movements, by ensuring that they are continuous and well-connected with commercial spaces. This also addresses inclusive design for vulnerable groups. They can also help guide future transformations of plots without compromising the qualities that make the street vibrant, livable, and safe for all users.

On the same note, as pointed out earlier, more active interactions among users, professionals, and authorities in commercial street spaces before and during transformation processes, as well as during authority-driven urban infrastructure projects, are vital (Mitlin, 2018). Such interactions will lead to collaborations that can inspire key actors to learn from each other, thereby generating urban spaces that meet the socio-economic needs of residents without undermining urban design principles and authorities' standards and regulations. This recommendation addresses research question three, which explores how the interactions and qualities of self-organized commercial spaces can inspire more active involvement, as well as inform future design and planning of urban commercial streets.

8.5 Further Research Areas

In the course of conducting this research, several areas of further research were identified. These are areas that could not be covered in the PhD timeframe but are closely linked to the study. Additional research is likely to shed more light on the subject.

8.5.1 Qualities of Commercial Streets in Informal Settlements

Since this research was carried out in a planned urban settlement, with an intermesh of formal and informal processes, the qualities and processes differ from those in informal settlements, where processes are largely informal. A study on the transformation and qualities of commercial streets in informal settlements, which also appear to have richness and abundance, can contribute to a deeper understanding of the tacit knowledge deployed by actors involved and the values that are created. This study may also offer an interesting comparative analysis.

8.5.2 Cohousing Dynamics and Retail Space Design along Urban Commercial Streets

In the course of conducting this study, different types of retail spaces were observed. The differences are based on a wide range of parameters, including size, outdoor amenities, and spatial requirements, to mention a few. Residential typologies with different cohousing dynamics were also observed, including how landlords and tenants live and share spaces. This study can shed more light on housing studies and mixed-use streets (residential and commercial) in urban Africa.

The analysis of the design and generation of the interior and exterior of commercial spaces showed that space users employ tacit knowledge to creatively appropriate interior spaces. The processes by which fixtures, lighting, furniture, and other components come to define a place, given limited resources and professional expertise, can shed more light on the understanding of creative processes and users' meanings that are embedded in the tacit knowledge they employ.

8.5.3 Climatic Livability Parameters in Urban Commercial Streets

The upgrading of Shekilango commercial street revealed a number of challenges, including the reduction of green spaces, such as trees and soft landscape cover (planted by users), to make room for more paved surfaces. The user-generated green spaces are designed to enhance the quality of streets, protecting users from weather elements such as rain and sun exposure while also offering opportunities

for sitting and socializing along the commercial street. Hence, such initiatives are vital in warm, humid coastal climates. A comparative study between existing outdoor temperatures and optimum outdoor temperatures along commercial streets may help establish appropriate indoor and outdoor design elements to enhance the livability qualities of commercial streets (Al Odat et al., 2021). This can contribute significantly to the subject, particularly in terms of planning and design parameters for enhancing livability along commercial streets in warm, humid coastal contexts.

8.5.4 Classification of Roads in Tanzania

Referring back to Kumar (2002), who reports that the classification of roads in Tanzania leaves out a number of typologies that have not been studied or analyzed, knowledge on street/road typologies based on the role they play can be resourceful for policymakers and professionals tasked with planning and designing roads. The study observed that there are varying types of commercial streets, which depend on location, nearby land uses and functions, road type, informal and formal parameters, retail types, and others (Roth et al., 2015). A detailed study of establishing typologies for commercial streets can be vital in acknowledging their inherent qualities and integrating them into urban infrastructure projects.

8.5.5 Transformation of Urban Streets

This study was unable to provide detailed information on how Shekilango Commercial Street was transformed historically from the 1970s to date, primarily because this was not the focus of the study. This was not possible, as some of the owners had passed away, and plots were sold to new owners who did not live in the study area and were difficult to access despite efforts to reach them through telephone calls. A detailed study that focuses on transformation processes showing and influencing factors, can help shed more light on the subject. Such a study can also help policymakers and professionals alike make informed decisions on design, transformation the redevelopment of commercial streets.

REFERENCES

- African Union, African Development Bank and Economic Commission for Africa. (2010). Framework and Guidelines on Land Policy in Africa Land Policy in Africa: A Framework to Strengthen Land Rights, Enhance Productivity and Secure Livelihoods. Addis Ababa, Ethiopia.
- Anyamba, Tom J.C. (2006). "Diverse Informalities" Spatial Transformations in Nairobi. Published PhD Dissertation. Oslo School of Architecture and Design.
- Arnstein, S. R. (1969) 'A Ladder of Citizen Participation', Journal of the American Planning Association, 35: 4, 216 — 224.
- Asaro, P. M. (2000). Transforming society by transforming technology: The science and politics of participatory design. *Accounting, Management and Information Technologies*, 10(4), 257-290.
- Babere, J.N., (2015) Social Production of Space: "Lived Space" of Informal Livelihood Operators; the Case of Dar es Salaam City Tanzania, Scientific Research Publishing Inc.
- Bacon, E.N., (1974). Design of Cities. Penguin Group. New York.
- Baffoe, G. (2023). Neoliberal Urban Development and The Polarization of Urban Governance. Cities, Volume 143.
- Bahendwa, F. (2013). Urban Form through Residents' Practices: The Unconventional Transformation Processes in Suburban Areas in Dar es Salaam, Tanzania. Published PhD Thesis. Oslo School of Architecture and Design.
- Bahendwa, F. (2017). Relevance of Walking and Informal Activities in Urban Space: A Case of Dar es Salaam City, Tanzania. Journal of Sustainable Development. Canadian Center of Science and Education. Vol. 10, No. 4. Doi:10.5539/jsd.v10n4p43.
- Beall, J., (2002). Living in the Present, Investing in the Future - Household Security among the Urban Poor in: Carole Rakodi and Tony Lloyd-Jones (Eds.), Urban Livelihoods, A People Centered Approach to Reducing Poverty.
- Berry, K. (2011). The Ethnographer's Choice: Why Ethnographers do ethnography. Cultural Studies - Critical Methodologies, 11(2). 165-177.
- Boano, C., and Astolfo, G., (n.d.). Informal Urbanism, city building processes and design responsibility.
- Boesen, J., Madsen, B.S., and Moody T., (1977). Ujamaa - Socialism from above. Scandinavian Institute of African Studies, Uppsala.
- Boonstra, B. and Boelens, L. (2011). Self-organisation in Urban Development: Towards a New Perspective on Spatial Planning. *Urban Research and Practice*, 4 (2), 99-122.
- Bourdieu, P. (2005). The Social Structures of the Economy. Cambridge: Polity In: Sheuya, S., Howden-Chapman, P., and Patel, S., (2007). The Social and Environmental Determinants of Inequalities. Journal

of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 84, No. 1.

Bratteteig, T. and I. Wagner. 2014. Disentangling Participation: Power and Decision Making in Participatory Design. Springer International Publishing. Switzerland. DOI 10.1007/978-3-319-06163-4.

Brennan, J.R., Burton, A. and Lawi, Y., (2007). Dar es Salaam: Histories from an Emerging African Metropolis, Mkuki na Nyota Publishers in association with the British Institute in Eastern Africa, Dar es Salaam and Nairobi.

Brynskov, M., Bermudez, J.C., Fernandez, M., Korsgaard, H., Mulder, I., Piskorek, K., & De Waal, M. (2014). Urban interaction design: Towards city making. Neuhausen, Germany: Urban IxD Booksprint.

Burian, B., and Kyariga, A.T., (n.d.) Sustainable Development in an Urban Tanzanian Context, Unpublished Paper, Dar es Salaam.

Burton, E., & Mitchell, L. (2006). Inclusive urban design: Streets for life. UK: Architectural Press.

Carlotta von Schönfeld, K., Bertolini, L., (2017) Urban streets: Epitomes of planning challenges and opportunities at the interface of public space and mobility. Cities: The International Journal of Urban Policy and Planning. Issue 68. 48-55.

Carmona, M., (2014). London's Local High Streets: The problems, Potential and Complexities of Mixed Use Street Corridors. Elsevier Ltd.

Carmona, M., Heath, T., OC, T., & Tiesdell, S. (2003). Public places- urban spaces: The dimension of urban design. London: Architectural Press.

Carr, S., Francis, M., Rivlin, G. L., & Stone, A.M. (1992). Public space. USA: Cambridge University press.

Cavignaux-Bros, D. & Cristol, D. (2020). Participatory Design and Co-Design—The Case of a MOOC on Public Innovation. In M. Schmidt, A. A. Tawfik, I. Jahnke, & Y. Earnshaw (Eds.), *Learner and User Experience Research: An Introduction for the Field of Learning Design & Technology*. EdTech.

Chambers, R. and G. Conway. 1992. Sustainable Rural Livelihoods: Practical Concepts for the 21ST Century. Brighton: Institute of Development Studies, University of Sussex. (IDS discussion paper; no. 296) In: De Satgé, R. (2002). Learning about Livelihoods: Insights from Southern Africa. Periperi Publication. South Africa.

Cheema, G. (1993) The Challenge of Urban Management: Some Issues. In: Cheema, G. and Ward, S., Eds., Urban Management Policies and Innovations in Developing Countries, Praeger Westport, London, 17.

Chen, M.A., (2007). Rethinking the Informal Economy: Linkages with the Formal Economy and the Formal Regulatory Environment. DESA Working Paper No. 46.

Chien, K. 2017. Entrepreneurialising Urban Informality: Transforming governance of informal settlements in Taipei. Urban Studies Journal. Pages 1-17.

- Cramer-Greenbaum, S. (2021). Who can afford a 'livable' place? The part of living global rankings leave out. *International Journal of Urban Sustainable Development*, 13(1), 70-82.
- Creswell, J.W. (2007). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. Second Ed. Sage Publications. USA.
- Dampney, K., Busch, P. & Richards, D. (2007). The Meaning of Tacit Knowledge. *Australasian Journal of Information Systems*; Vol 10, No 1 (2002). 10. 10.3127/ajis.v10i1.438.
- Day, C. & Parnell, R. (2003). *Consensus Design: Socially Inclusive Process*. Architectural Press.
- DCC, (2005). *Strategic Urban Development Plan for the City of Dar es Salaam: Volume I, Dar es Salaam*.
- DCC, (2008). *Dar es Salaam Transport Policy and System Development Master Plan Technical: Report 1, Urban and Regional Planning*.
- De Boeck, P. and Simone, A. (2015). *Kinshasa's Fluxes and Rhythms*. CITYSCAPES.
- De Satgé, R. (2002). *Learning about Livelihoods: Insights from Southern Africa*. Periperi Publication. South Africa.
- Dean, M. M. (2009). *Governmentality: Power and Rule in Modern Society* (2nd ed.) In: Sundaresan, J. (2017). *Urban planning in vernacular governance: land use planning and violations in Bangalore, India*. *Progress in Planning*. ISSN 0305-9006.
- Dey, I. (1995). Reducing Fragmentation in Qualitative Research. In U. Keele (Ed.), *Computer-Aided Qualitative Data Analysis* (pp. 69-79). Thousand Oaks, CA: Sage. In: Creswell, J.W. (2007). *Qualitative Inquiry & Research Design: Choosing Among Five Approaches*. Second Ed. Sage Publications. USA.
- Duncan, S. and Rowe, A. (1993). *Self-provided Housing: The First World's Hidden Housing Arm* In: Benson, M. and Hamiduddin, I. (2017). *Self-Build Homes*. UCL Press London.
- Edjabe, N. and Pieterse, E. (2011). *African Cities Reader II: Mobilities and Fixture*. Chimurenga and the African Centre for Cities, South Africa.
- Elrawy, S. & Elian, N. (2024). *Commercial Streets: A Framework for Creating Livable Environments in Egypt*. *JES. Journal of Engineering Sciences*. 52. 585-625. 10.21608/JESAUN.2024.288746.1334.
- Eppell, V.A.T., Bunker, J.M. and McClurg, B.A., (2001). *A Four Level Road Hierarchy for Network Planning and Management*. In Jaeger, Vicki, Eds. *Proceedings 20th ARRB Conference*, Melbourne.
- Farrington, J., Chapman, R. and Slaymaker, T. (2001) 'Sustainable Livelihoods approaches in practice: Potentials and constraints'. Paper prepared for the Sida Poverty Workshop, Overseas Development Institute, London.
- Farrington, J., Ramasut, T. and Walker, J. (2002). *Sustainable Livelihoods Approaches in Urban Areas: General Lessons, with Illustrations from Indian Cases*. Working Paper 162. Overseas Development Institute, London.

- Flick, U. (1992). Triangulation revisited: Strategy of Validation or Alternative? *Journal for the Theory of Social Behaviour*, 22(2), 175–197. <https://doi.org/10.1111/j.1468-5914.1992.tb00215.x>.
- Flyvbjerg, B. (2001). *Making Social Science Matter: Why social science inquiry fails and how it can succeed again*. Cambridge University Press. Cambridge.
- Fox, N. (n.d). Comparison of post-structuralist, critical realist and neo-materialist perspectives (Table).
- Gehl J., (1987). *Life Between Buildings*. Van Nostrand Reinhold. New York.
- Gehl, J. (2010). *Cities for People*. Island Press. Washington D.C.
- Gehl, J., Kaefer, L.J. and Reigstad, S. (2006). *Close Encounters with Buildings*. URBAN DESIGN International. 11, 29–47 r 2006 Palgrave Macmillan Ltd.
- George, C., Msoka, C.T. & Makundi, H. (2022). Formalisation of Street Vending in Dar es Salaam: Implementation and Enforcement of the Wamachinga Identity Card Initiative, Forum for Development Studies, DOI: 10.1080/08039410.2022.2112277.
- Geppert, A.A., (2014). Co-design for Community Capacity Building. In *International Reports on Socio-Informatics (IRSI)*.
- Ghazi, N.M. and Abaas, Z.R. (2019). Toward Liveable Commercial Streets: A case study of Al-Karada Inner Street in Baghdad. Elsevier. <https://doi.org/10.1016/j.heliyon.2019.e01652>.
- Gielen, P. and Lijster, T. (2017). Art and civil action. Cultural organizations in the European civil domain. *Visual Ethnography*. 6. 21-47. 10.12835/ve2017.2-0085.
- Glaser, B. and Strauss, A. (1967). *The Discovery of Grounded Theory*. Chicago, IL. Aldine. In: Maxwell, J.A. (2013). *Qualitative Research Design: An Interactive Approach* (3rd Ed). Los Angeles, USA. SAGE.
- Goodspeed, R. (2015). Smart Cities: Moving Beyond Urban Cybernetics to Tackle Wicked Problems. *Cambridge Journal of Regions, Economy and Society*, 8(1), pp. 79-92.
- Government of Tanzania & Danish Ministry of Foreign Affairs Danida. (2008). *Tanzania Business Sector Programme Support - Phase III BPS III*.
- Greene, J. (1994). The Role of Theory in Qualitative Program Evaluation In: Shaw, I.F. (1999). *Qualitative Evaluation*. SAGE Publications Ltd. London.
- Guibrunet, L., and Castán Broto, V.C., (n.d.). *The Sustainability of The Informal City: An Urban Metabolism Approach*.
- Habraken, N.J., (1998). *The Structure of The Ordinary*. The MIT Press. United States of America.
- Hahlweg D. (1997), *The City as a Family: Making Cities Livable*. International Making Cities Livable Conferences. California. In: Al Odat, S.M. and Al Kudri N. (2021). *Lively Streets: The Role of Streetscape Elements in Improving the Experience of Commercial Street Users in Amman, Jordan*. *Journal of*

Settlements and Spatial Planning. <https://doi.org/10.24193/JSSP.2021.1.0123223>.

Hall, P. (1989) Arcadia for Some: the Strange Story of Autonomous Housing. *Housing Studies* 4(3): 149–54.

Hasgöl, E., (2015). Space Configuration: Patterns of Space and Culture. 9th Theory and History of Architecture Conference. Istanbul Kultur University, Faculty of Architecture. Istanbul, Turkey.

Haug, J., (2014), Critical Overview of the (Urban) Informal Economy in Ghana.

Healey, P. (2006). Transforming Governance: Challenges of Institutional Adaptation and a New Politics of Space, *European Planning Studies*, 14:3, 299-320, DOI: 10.1080/09654310500420792.

Heylighen F, Cilliers P and Gershenson C (2007) Complexity and philosophy. In: Bogg J and Geyer R (eds) *Complexity Science and Society*. Oxford: Radcliffe.

Hillier J (2012) Baroque complexity: 'If things were simple word would have gotten round'.

Horelli, L., Saad-Sulonen, J., Wallin, S. and Botero, A., (2015). When Self-organisation and Urban Governance Intersect: Two cases from Helsinki. *Using ICT, Social Media and Mobile Technologies to Foster Self-Organization in Urban and Neighborhood Governance conference*. Delft: The Netherlands.

Husmanns, R., (2003). Defining and Measuring Informal Employment. Bureau of Statistics, International Labour Office. CH-1211 Geneva 22, Switzerland.

ICF International & Freedman Tung & Sasaki, (2010). Development of a Nationally Replicable Approach to Smart Growth Corridor Redevelopment for: EPA, (2010). *Restructuring the Commercial Strip: A Practical Guide for Planning the Revitalization of Deteriorating Strip Corridors*.

ILD (2005) Volume II: The Extra-legal Economy: Its Archetypes and Sizes in: Lyons, M., and Brown, A., (2009). *Legal Pluralism and Development: Street-trade and regulatory reform in Tanzania*.

ILO (2002): Resolution concerning decent work and the informal economy. Geneva.

ILO (2002): Resolution Concerning Decent Work and The Informal Economy. Geneva.

Ingold, T. (2015). *The Life of Lines*. Routledge. Oxon. United Kingdom.

Iossifova, D. (Ed.) (2013). *SCIBE. Scarcity and Creativity in the Built Environment*. The Bank of Ideas.

Irene, F.A., & Hansen, G.S., (2011). "Participation in Planning; A Study of Urban Development in Norway", Refereed article No. 42, August, *European Journal of Spatial Development*.

Izar, P and Jean-Baptiste. (2019) *Housing Practice and Urban Production at the Formal-Informal Interface: the case of Dar es Salaam in Tanzania*. Enanpur Natal.

Jacobs, A.B. (1993) *Great Streets*. Boston: The MIT Press.

Jacobs, J. (1974). *The Death and Life of Great American Cities*. Random House. U.S.A.

- Jagtap, S. Codesign in Resource-Limited Societies: Theoretical Perspectives, Inputs, Outputs and Influencing Factors. *Res Eng Des.* (2022;2022). (1):1–21. <https://doi.org/10.1007/S00163-022-00384-1>.
- Jayanti, E.B. 2011. Through a different lens: A survey of linear epistemological assumptions underlying HRD models. *Hum. Resour. Dev. Rev.* 10, 101–114. doi:10.1177/1534484310386753.
- Jones, C., Al-Shaheen, Q. & Dunse, N, (2016). Anatomy of a Successful High Street Shopping Centre, *Journal of Urban Design*, 21:4, 495-511, DOI: 10.1080/13574809.2016.1192947.
- Kasala, S. E. 2013. Operationalizing Strategic Urban Development Planning: A case of Dar es Salaam City, Tanzania, an unpublished Ph.D Thesis, University of Dar es Salaam.
- Kasala, S.E. 2015. A Return to Master Planning in Dar es Salaam: A Misconception of the Theory of Paradigm Shifts? *Global Journals.* Vol. 15. Issue 2.
- Kavishe, N. & Chileshe, N. (2017). Joint Venture Housing Projects in Dar Es Salaam City: an Analysis of Challenges and Effectiveness.
- Kazaura, W. G., & Burra, M. M. (2017). Land Use Change and Traffic Impact Analysis in Planned Urban Areas in Tanzania: The Case of Dar es Salaam City. *Current Urban Studies*, 5, 1-19. <https://doi.org/10.4236/cus.2017.51001>.
- Keivani, R., Parsa, A., & McGreal, S. (2001). Globalisation, Institutional Structures and Real Estate Markets in Central European Cities. *Urban Studies*, 38(13), 2457-2476. <https://doi.org/10.1080/00420980120094614> In: Bredenoord, J., Paul van Lindert. (2017). Pro-poor Housing Policies. Rethinking the Potential of Assisted Self-help Housing. *Cities: The International Journal of Urban Policy and Planning.* Issue 68. 278-287.
- Kenti, D.W and Mushi P.S. (1995). The Education and Training of Artisans for The Informal Sector in Tanzania. Overseas Development Administration.
- Kickert, C. (2022). Fight, flight, or adapt – The Future of our Commercial Streets. *Journal of Urban Design*, 27:1, 55-58, DOI: 10.1080/13574809.2021.1986939.
- Kinondoni Municipal Council., (n.d.). Oyster Bay-Masaki Redevelopment Scheme-2011-2031.
- Kironde, J. M. (2006). The Regulatory Framework, Unplanned Development and Urban Poverty Findings from Dar es Salaam, Tanzania. *Land Use Policy*, 23, 460-472. Scientific Research Publishing.
- Kironde, J. M. L. (2016). Implementation of the Provisions of the National Land Policy 1995 and Subsequent Legislation in Dealing with Hazard Land in Tanzania: The Case of Dar es Salaam. Research Report, Dar es Salaam: USAID Peri Peri U Project, Disaster Management Training Centre (DMTC), Ardhi University.
- Kironde, J.M. (1991). Sites-and-services in Tanzania: The Case of Sinza, Kijitonyama and Mikocheni Areas in Dar-es-Salaam. *Habitat International*, 15, 27-38.

Kironde, J.M.L. (2015). Good Governance, Efficiency and the Provision of Planned Land for Orderly Development in African Cities: The Case of the 20,000 Planned Land Plots Project in Dar es Salaam, Tanzania. *Current Urban Studies*, 3, 348-367.

Klijn, E.-H. and Snellen, Ig., (2009). Complexity Theory and Public Administration. In: Boonstra, B. and Boelens, L. (2011). Self-organisation in Urban Development: Towards a New Perspective on Spatial Planning. *Urban Research and Practice*, 4 (2), 99-122.

Kombe, W. (2017). Institutional Reforms for Urban Land Use Planning and Management in Sub-Sahara Africa: Evidences, Gaps and Prospects. E&D Vision Publishing Ltd.

Kombe, W. J., & Kreibich, W. (2006). Governance of Informal Urbanisation in Tanzania. Dar es Salaam: Mkuki na Nyota.

Kombe, W.J. and Kreibich, V., (2000). Reconciling Informal and Formal Land Management: An Agenda for Improving Tenure Security and Urban Governance in Poor Countries. *Habitat International* 24, pp. 231-240.

Kombe, W.J., (2005). Land Use Dynamics in Peri-urban Areas and their Implications on Urban Growth and Form: The Case of Dar es Salaam, Tanzania, *Habitat International* Vol. 29, pp. 113-135.

Kombe, W.J., and Kreibich, V., (2001). Informal Land Management in Tanzania and the Misconception about its Illegality: A paper presented at the ESF/N-Aerus Annual Workshop "Coping with Informality and Illegality in Human Settlements in Developing Countries".

Könings, K. D., Seidel, T., & van Merriënboer, J. J. (2014). Participatory design of learning environments: Integrating perspectives of students, teachers, and designers. *Instructional Science*, 42(1), 1-9.

Kothari, C.R. (2004) *Research Methodology: Methods and Techniques*. 2nd Edition, New Age International Publishers, New Delhi.

Kraff, H. and Jernsand, E. (2023). Time as an Issue of Power in Participatory Design, In: Holmlid, S., Rodrigues, V., Westin, C., Krogh, P. G., Mäkelä, M., Svanaes, D., Wikberg-Nilsson, Å (eds.), *Nordes* (2023). This Space Intentionally Left Blank, 12-14 June, Linköping University, Norrköping, Sweden. <https://doi.org/10.21606/nordes.2023.70>.

Krugman, P.R., (1996). *The self-organizing economy*. Oxford: Blackwell.

Kumar, J., (2002). A Review of Road Sector Reforms in Tanzania: Sub-Saharan Africa Transport Policy Program. The World Bank and Economic Commission for Africa.

Kweka, J. and Fox, L. (2011). The Household Enterprise Sector in Tanzania: Why It Matters and Who Cares. WB Policy Research Working Paper 5882.

Kyessi, A. (2002). Community Participation in Urban Infrastructure Provision: Servicing Informal Settlements in Dar es Salaam. Spring Center. University of Dortmund. Land Act, 1999, Cap 113.

La Porta, R., and Shleifer A., (2014). Informality and Development, *Journal of Economic Perspectives*—

- LANGLEY, J. (2016). Participatory Design: Co-creation | o-production | co-design combining Imaging and Knowledge.
- Lee, K., Mannino, S. and Muzi, G. (2014). World Shopfront Design. Design Media Publishing Ltd.
- Lefebvre, H. (1991). The Production of Space, Blackwell.
- Levinson, D., Feng X., and Shanjia Z. (2007). The Co-Evolution of Land Use and Road Networks. Presented at the Seventeenth International Symposium on Transportation and Traffic Theory, London.
- Levy, S., (2008). Good Intentions, Bad Outcomes: Social Policy, Informality, and Economic Growth in Mexico. Brookings Institution Press.
- Ligthelm, A.A., (n.d.). Profile of Informal Microenterprises in the Retail Sector of South Africa.
- Limbumba, T.M., (2010). Exploring Social-cultural Explanations for Residential Location Choices. Doctoral Thesis in Built Environment Analysis. Royal Institute of Technology. Sweden.
- Lupala J., (2002). Urban Types in Rapidly Urbanising Cities: Analysis of Formal and Informal Settlements in Dar es Salaam, Tanzania. Stockholm: Royal Institute of Technology.
- Lynch, K. (1960). The Image of the City. Cambridge, MA: MIT Press.
- Lyons, M. and Brown, A., (2009). Legal Pluralism and Development: Street-trade and regulatory reform in Tanzania.
- Majale, M. (2002). Towards Pro-poor Regulatory Guidelines for Urban Upgrading: A Review of Papers Presented at the International Workshop on Regulatory Guidelines for Urban Upgrading, Bouton On-Dunsmore, United Kingdom. Practical Action.
- Malyamkono, T.L., M. S. D. Bagachwa, M.S.D. (1990). The Second Economy in Tanzania. University Press; Nairobi, Kenya.
- Markus T.A., (1993). Buildings as Social Objects: Companion to Contemporary Architectural Thought. Farmer B., Louw H. (eds.), Routledge, London, UK, p.15-20.
- Meerkerk, I., Boonstra, B., Edelenbos, J. (2013). Self-organization in Urban Regeneration: A Two-Case Comparative Research. European Planning Studies, vol. 21, no. 10, pp.1630-1652.
- Mehta, V. (2006). Lively Streets: Exploring the Relationship between Built Environment and Social Behavior, PhD Thesis. Pages 1689–1699. In: Ghazi, N.M. and Abaas, Z.R. (2019). Toward liveable commercial streets: A case study of Al-Karada inner street in Baghdad. Elsevier. <https://doi.org/10.1016/j.heliyon.2019.e01652>.
- Mehta, V. 2013. The Street : a Quintessential Social Public Space, Abingdon, Oxon ; New York, NY, Routledge.

- Meikle, J., (2011). Unpublished Note on Informal Construction. ICP Technical Advisory Group Meeting. Washington DC.
- Meikle, S., (2002). The Urban Context and Poor People in: Carole Rakodi and Tony Lloyd-Jones (Eds.), *Urban Livelihoods, A People Centered Approach to Reducing Poverty*.
- Mercer, Claire (2016) *Landscapes of Extended Ruralisation: Postcolonial Suburbs in Dar es Salaam, Tanzania*. Transactions of the Institute of British Geographers . ISSN 0020-2754. DOI: 10.1111/tran.12150.
- Miles, M. and Huberman, A. (1994). *Qualitative Data Analysis: An Expanded Source Book* in: Shaw, I.F. (1999). *Qualitative Evaluation*. SAGE Publications Ltd. London.
- Mitlin, D., (2008). With and Beyond the State—Co-Production as a Route to Political Influence, Power and Transformation for Grassroots Organizations. *Environment and Urbanization - ENVIRON URBAN*. 20. 339-360. 10.1177/0956247808096117.
- Mlinga, R.S., (2001). *Collaboration between the Formal and Informal Construction Sectors: Towards a New National Policy for Tanzania*, University of Cape Town, South Africa.
- Mohammadi, H., (2010). *Citizen Participation in Urban Planning and Management: The Case of Iran, Shiraz City Saadi Community*. Kassel University Press.
- Mokolane, M. (2023). *Exploring the Dynamics of Informal Trade and Urban Identity: A Qualitative Study of Church Street in Pretoria*. University of Pretoria.
- Moser, C. O. N. (1998). The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies. *World Development*, 26, 1-19. [http://dx.doi.org/10.1016/S0305-750X\(97\)10015-8](http://dx.doi.org/10.1016/S0305-750X(97)10015-8)
- Moshi, E. (2009). *Urban Transformation: Changing Building Types in Kariakoo*. Dar es Salaam Tanzania. Published PhD Dissertation. Oslo School of Architecture and Design.
- Moudon, A.V., (1997), *Morphology as an Emerging Interdisciplinary Field*. University of Washington, Seattle.
- Mullins, L. (1999). *Management and Organizational Behaviour*. London: Pitman Publishing.
- Murphy, K.M., (2016). *Design Anthropology*, Department of Anthropology, University of California. Annual Reviews.
- Mwiga, B.G., (2011). *Evaluating the Effectiveness of Regulatory Framework in Providing Planned Land in Urban Areas: A Case of Dar es Salaam City 20,000 Plots Project*, Tanzania. Ensched, The Netherlands.
- Myers, G. (2011). *African Cities: Alternative Visions of Urban Theory and Practice*. London: Bloomsbury Academic.
- Nguluma, H.N.,(2003).*Housing Themselves: Transformations, Modernisation and Spatial Qualities in*

Informal Settlements in Dar es Salaam, Tanzania. Published PhD Dissertation. Royal Institute of Technology.

NNKYA, T. (2008) An enabling framework? Governance and Street Trading in Dar es Salaam, Tanzania. In: Lyons, M. and Brown, A. (n.d.). Life on the Streets: Voice and Power of Street Traders in Urban Tanzania Faculty of Arts and Human Sciences, London South Bank University, UK.

Okello, N.J.O. (2013). New [dis]connection. A local Interpretation of Transformed Road Infrastructure. Enschede.

Okello, N.J.O. (2019). Tracing Vulnerability: An Assessment of the Impact of Interventions in Housing and Road Infrastructures in Nairobi, Kenya. Africa Habitat Review Journal.

Olajoke, A., and Adeboyejo, A.T., (2013). Urban Informal Enterprises and Space Utilization in Ibadan, Nigeria. Department of Urban and Regional Planning, Ladoke Akintola University of Technology Ogbomoso Nigeria.

Oswalt, P., Overmeyer, K. and Misselwitz, P., (n.d.). Urban Catalyst: The Power of Temporary Use. Dom Publishers.

Owens, K.E., (2014). Negotiating the City: Urban Development in Tanzania, A published PhD dissertation, University of Michigan.

Planning, A.R., (1998), Ruimtelijk Structuurplan Vlaanderen In: Lauwers, D., (n.d.). Functional Road Categorization: New Concepts and Challenges Related to Traffic Safety, Traffic Management and Urban Design - Reflections Based on Practices in Belgium Confronted With some Eastern European Cases.

Polk, M. (2015) Transdisciplinary Co-Production: Designing and Testing a Transdisciplinary Research Framework for Societal Problem Solving. Futures, 65, 110-122.<https://doi.org/10.1016/j.futures.2014.11.001>.

Portugali, J. (2000). Self-Organization and the City. Springer, 352 p. <https://doi.org/10.1007/978-3-662-04099-7>.

Prelovskaya, E. and, Levashev, A., (2016). Modern Approach of Street Space Design. 12th International Conference "Organization and Traffic Safety Management in large cities", St. Petersburg, Russia.

Priyan, R.S., Kalidas, M.K.M., A. Rajalakshmi S. Sangeetha, A.R.S. & Subhadharshini, S., (2017). "Planning and Design of Urban Street - Coimbatore City", International Journal of Engineering Research and Modern Education, Special Issue, Page Number 127-130.

Putnam, R. (1993). Making Democracy Work: Civic Traditions in Modern Italy. Chichester: Princetown University Press.

Racaud, S., Kago, J. and Owuor, S. (2018). Contested Street: Informal Street Vending and its Contradictions. Artículo - Journal of Urban Research. 17-18. 1-16. 10.4000/articulo.3719.

Rahman, N.A., Rasidah, S., Nayan, N.M. (2016). Physical Qualities and Activities for a User-friendly

- Shopping Street in the Context of a Malaysian City. Science direct Limited. doi: 10.1016/j.sbspro.2016.05.147.
- Rankin, K.N. and McLean, H. (2015). Governing the Commercial Streets of the City: New Terrains of Disinvestment and Gentrification in Toronto's Inner Suburbs. *Antipode* Vol. 47 No. 1, Page Number. 216–239. doi: 10.1111/anti.12096.
- Rapoport A., (1970). The Study of Spatial Quality, in Rapoport (undated). Thirty Three Papers in Environment-Behaviour Research, pp. 43-58.
- Ray, C.N. and Mishra, A., (2011). Vendors and Informal Sector: A Case-Study of Street Vendors of Surat City. Centre for Urban Equity. CEPT University.
- Ricci, L. (2012). Peri-Urban livelihood and Adaptive Capacity: Urban Development in Dar es Salaam. *Consilience: The Journal of Sustainable Development*. 7. 46-63.
- Romeau, S., (2017). Sharitories: Building a Collaborative Future for Mid-sized Cities.
- Roth, N. and Grant, J.L. (2015). The Story of a Commercial Street: Growth, Decline, and Gentrification on Gottingen Street, Halifax. *Urban History Review / Revue d'histoire urbaine*. Volume 43, Number 2, Spring 2015, p. 38–53. DOI: <https://doi.org/10.7202/1031289ar>.
- Roy, A. (2005). Urban Informality Toward an Epistemology of Planning. *Journal of the American Planning Association*, Vol. 71, No. 2.
- Roy, A. (2010). Informality and the Politics of Planning. In Babere, J.N., *Social Production of Space: "Lived Space" of Informal Livelihood Operators; the Case of Dar es Salaam City Tanzania*, Scientific Research Publishing Inc In: Boano, C., and Astolfo, G., (n.d.). *Informal Urbanism, city building processes and design responsibility*.
- SACN, (2014). *The Informal City Reader: South Africa Edition*. Johannesburg: South African Cities Network.
- Sanders, E. B.-N., & Stappers, P. J., (2008). Co-creation and the New Landscapes of Design. *CoDesign*, 4(1), 5-18.
- Scannell, L., & Gifford, R. (2010). Defining place attachment: A Tripartite Organizing Framework in: Rioux, L., Scrima, F. and Werner C.M. (2017). *Space Appropriation and Place Attachment: University Students Create Places*. *Journal of Environmental Psychology* Issue No. 50, 60-68.
- Schneider, F., (2004). The size of the Shadow Economies of 145 Countries all Over the World, First results for the period 1999-2003 in: Lyons, M., and Brown, A., (2009). *Legal Pluralism and Development: Street-trade and Regulatory Reform in Tanzania*.
- Schneider, M., & Somers, M. (2006). Organizations as complex adaptive systems: Implications of complexity theory for leadership research. *The Leadership Quarterly*, 17(4), 351–365. <https://doi.org/10.1016/j.leaqua.2006.04.006>.

- Schreurs, J. and Kuhk, A. (2015). *Methodologies for Collective Future Explorations in Actor and Action-Oriented Territorial Development*. REAL CORP 2015. PLAN TOGETHER – RIGHT NOW – OVERALL. From Vision to Reality for Vibrant Cities and Regions. Proceedings of 20th International Conference on Urban Planning, Regional Development and Information Society. pp. 827-839.
- Scoones, I. (1998). Sustainable Rural Livelihoods: A Framework for Analysis. Working Paper 72. Institute of Development Studies.
- Sheuya, S., (2004). Housing Transformations and Urban Livelihoods in Informal Settlements, The Case of Dar es Salaam, Tanzania. Published PhD Thesis. Spring Center. University of Dortmund.
- Sheuya, S., Howden-Chapman, P., and Patel, S., (2007). The Social and Environmental Determinants of Inequalities. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, Vol. 84, No. 1.
- Simone, A. (2006) Pirate Towns: Reworking Social and Symbolic Infrastructures in Johannesburg and Douala *Urban Studies*, Vol. 43, No. 2, 357–370.
- Simone, A. (2010). The Social Infrastructures of City Life in Contemporary Africa.
- Simone, A. Cities of the Global South. (2020). *Annual Review of Sociology*, Vol. 46, pp. 603-622, 2020. <https://ssrn.com/abstract=3670051>.
- Singh, D.R., Sah, R.K., Simkhada, B. et al. 2023. Potentials and Challenges of Using Co-design in Health Services Research in Low- and Middle-income Countries. *glob health res policy* 8, 5. <https://doi.org/10.1186/s41256-023-00290-6>.
- Stake, R. E., (1995). The art of case study research. Thousand Oaks, CA: Sage.
- Stake, R.E., (1998). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *Strategies of qualitative inquiry* Vol. 2, (pp. 86– 109). Thousand Oaks, CA: Sage.
- Sundaresan, J. (2017). Urban planning in vernacular governance: land use planning and violations in Bangalore, India. *Progress in Planning*. ISSN 0305-9006.
- Tacoli, C. (1999) 'Understanding the Opportunities and Constraints for Low Income Groups in The Peri-Urban Interface: The Contribution of Livelihood Frameworks.' Draft paper, Peri-Urban Research Programme. London: Development Planning Unit, University College London. In: Farrington, J., Chapman, R. and Slaymaker, T. (2002) 'Sustainable Livelihoods approaches in practice: Potentials and Constraints. Paper prepared for the Sida Poverty Workshop, Overseas Development Institute, London.
- Talvitie, A., (1996). Functional Classification of Roads: A paper presented at the annual meeting of the Transportation Research Board, Washington, D.C.
- Tanzania, (1997) Town and Country Planning (Space and Standards) Regulations.
- Thi, N., Chi, N., Thi, P., Cling, Jean-Pierre, Razafindrakoto, M. and Roubaud, F. (2010). The Informal Sector in Vietnam. A focus on Hanoi and Ho Chi Minh City.

- Till, Jeremy. (2009). *Architecture Depends*: MIT Press, p. 150.
<http://site.ebrary.com/id/10273927?ppg=150>.
- Tipple, A.G., (1991) *Self Help Transformation of Low Cost Housing* In: Avogo, F.A., Wedamb, E.A., Opokuc, S.M. (2017). Housing transformation and livelihood outcomes in Accra, Ghana. *Cities: The International Journal of Urban Policy and Planning*. Issue 68. 92-108.
- Tkachenko, O. and Ardichvili, A. 2017. Cultural-historical activity theory's relevance to HRD: A review and application. *Hum. Resour. Dev. Rev.* 16, 135–157.
- Trancick, R. (1986). *Finding Lost Space: Theories of Urban Design*, Van Nostrand Reinhold, New York In: Lupala J., (2002). *Urban Types in Rapidly Urbanising Cities: Analysis of Formal and Informal Settlements in Dar es Salaam, Tanzania*. Stockholm: Royal Institute of Technology.
- Transport and Urban Projects Department. (1974). *Tanzania Appraisal of National Sites and Services Project*. Report No. 337a – TA.
- Tsing, A. L. (2017). *The Mushroom at the End of The World*. Princeton University Press.
- Turner, J. R., & Baker, R. M. (2019). Complexity theory: An overview with potential applications for the social sciences. *Systems*, 7(1), 4. <https://doi.org/10.3390/systems7010004>[_.
- UN Habitat. (2009). *Dar es Salaam City Profile*. United Nations Human, Nairobi, Kenya (2009).
- UN HABITAT. (2010). *The State of African Cities 2010 Governance, Inequality and Urban Land Markets*. UNON/Publishing Services Section, Nairobi.
- UN HABITAT. (2016). *Guidelines for Urban Planning Prepared for the Republic of the Union of Myanmar*.
- UN HABITAT. (n.d.). *INFORMAL URBANISM - Habitat Universities Thematic Hub*, University of Hannover, Germany.
- UN Habitat. 2013. *Streets as Public Spaces and Drivers of Urban Prosperity*.
- United Nations, Department of Economic and Social Affairs, P. D. (2014). *World Urbanization Prospects: The 2014 revision, Highlights*.
- URT. (1997). *National Environmental Policy*, Vice Presidents Office, Dar es Salaam.
- URT. (1999). *The Land Act*, Government Printer, Dar es Salaam.
- URT. (2012). *Tanzania in Figures*. National Bureau of Statistics. Ministry of Finance and Planning, Dodoma.
- URT. (2020). *Informal Sector Survey, 2019 Analytical Report Dar Es Salaam Region*. National Bureau of Statistics. Ministry of Finance and Planning. Dodoma.
- URT. (2022). *Administrative Units Population Distribution Report*. Ministry of Finance and Planning

- National Bureau of Statistics Tanzania and Presidents' Office - Finance and Planning Office of the Chief Government Statistician Zanzibar.
- Van Assche, K., Duineveld, M. and Beunen, R. (2014). Power and contingency in planning. *Environment and Planning A* 46(10): 2385–2400.
- Van Meerkerk, I., Boonstra, B. and Edelenbos, J. (2013). Self-Organization in Urban Regeneration. A Two Case Comparative Research. *European Planning Studies*, 21(10), 1630-1652, 2013. Available at SSRN: <https://ssrn.com/abstract=2702145>.
- Van Wezemaal, J.E. (2012). Transformative practice as an exploration of possibility spaces.
- Van Wolputte, S., Cassiman, A., & De Boeck, F. (2022). "City Labs: Making Cities, Making Futures". In *African Futures*. Leiden, The Netherlands: Brill. doi: https://doi.org/10.1163/9789004471641_023.
- Varma, D.S., Nandan, K., PC, V.R., Soundharajan, B., Pérez, M.L., Sidharth, K.A. and Ramesh, M.V. (2021). Participatory Design Approach to Address Water Crisis in the Village of Karkatta, Jharkhand, India. *Technological Forecasting and Social Change*, 172, p.121002.
- Vasari, G. *Life of Marcantonio of Bologna and Other Engravers of Prints*, Florence (1568), Primary Sources on Copyright (1450-1900), eds Bently, L. & M. Kretschmer, M. www.copyrighthistory.org In: Gunn, W., Otto, T. and Charlotte, R. (2013). *Design Anthropology Theory and Practice*. Bloomsbury. London.
- Vaske, J. J., & Kobrin, K. C. (2001). Place Attachment and Environmentally Responsible Behaviour In: Anton, C.A. and Lawrence C. (2016). The Relationship between Place Attachment, the Theory of Planned Behavior and Residents' Response To Place Change. *The Journal of Environmental Psychology*. Issue No. 46, 145-154.
- Vedasto, R.V. and Mrema, L.K., (2013). Architectural Perspectives on Informalization of Formal Settlements: Case of Sinza Neighborhood in Dar es Salaam. *Online Journal of Social Sciences Research*. Volume 2, Issue 6, pp 151-172.
- Verhetsel, A., Beckers, J. & Cant, J. (2022). Regional Retail Landscapes Emerging from Spatial Network Analysis, *Regional Studies*, DOI: 10.1080/00343404.2021.2014444.
- Villain, J., (2011). *The Impact of the Urban Form on the Spatial Distribution of Commercial Activities in Montréal*. Concordia University. Montréal, Québec, Canada.
- Wagenaar, H. (2007). Governance, Complexity, and Democratic Participation: How Citizens and Public Officials Harness the Complexities of Neighbourhood Decline, *American Review of Public Administration*, 37(1), pp. 17–50.
- Waldrop, M.M. 1992. *Complexity: The Emerging Science at the Edge of Order and Chaos*; Simon & Schuster Paperbacks: New York, NY, USA. ISBN 0671767895.
- Wang, Z., & Jiang, T. & Jiawen, H. & Tai, Y. & Trapani, P. & Wang, Z. & Jiang, T. & Tai, J. (2022). How

Might We Evaluate Co-design? A literature Review on Existing Practices. 10.21606/drs.2022.774.

Wells, J. 2007. "Informality in the Construction Sector in Developing Countries," *Construction Management and Economics*, Taylor & Francis Journals, vol. 25(1), pages 87-93. DOI: 10.1080/01446190600601339.

Whyte, W.H. (2012). *City: Rediscovering the Center*, Reissue ed, University of Pennsylvania Press. Pennsylvania. <https://www.azquotes.com/quote/755645>.

Wibisono, B.H. (2001). *Transformation of Jalan Malioboro, Yogyakarta: The Morphology and Dynamics of a Javanese Street*. Published PhD Thesis. Faculty of Architecture, Building and Planning, The University of Melbourne.

Winschiers-Theophilus, H., Shilumbe, C., Kapuire, G.K., Bidwell, M., Blake, E. (2010) *Being Participated: A Community Approach*. PDC.

Woermann M., Human, O. and Preiser, R. (2018). General complexity a philosophical and critical perspective. *Emergence: Complexity and Organization* 20(2): 1–12 DOI: 10.17357.c9734094d98458109d25b79d546318af.

World Bank Group. (2016). *Promoting Green Urban Development in African Cities DAR ES SALAAM, TANZANIA Urban Environmental Profile*. www.worldbank.org.

World Bank Group. (2018). *Doing Business: Reforming to Create Jobs*. A World Bank Group Flagship Report.

World Bank. (2004). *Five Years of Doing Business in: Lyons, M., and Brown, A., (2009). Legal Pluralism and Development: Street-trade and regulatory reform in Tanzania*.

World Bank. (2014): *Workers in the Informal Economy*, see <http://go.worldbank.org/1PVGLNWYC0>, last seen: 26.02.2018. 13:53.

World Bank. (2021). *Tanzania Roads to Inclusion and Socioeconomic Opportunities (RISE) Project*. (P164920).

Yaneva, Albena. (2012). *Mapping Controversies in Architecture*. Ashgate Publishing Limited. Farnham, England.

Yawson, R.M. 2013. Systems theory and thinking as a foundational theory in human resource development—A myth or reality? *Hum. Resour. Dev. Rev.* 12, 53–85. doi:10.1177/1534484312461634.

Yin, R. (1994). *Case Study Research: Design and Methods*. Sage Publications Ltd. London.

Yin, R. (2009). *Case Study Research: Design and Methods*. Sage Publications Ltd. London.

Yin, R.K. (2003) *Case Study Research: Design and Methods*. 3rd Edition, Sage, Thousand Oaks.

APPENDICES

Appendix 1: Narratives from Shekilango Road

Narrative 1

MZEE WA RUKHSA

'Mzee wa rukhsa' was the nickname of the second president of the United Republic of Tanzania – Ali Hassan Mwinyi. Mzee Rukhsa means an elderly person who advocated for permission. He gave permission to engage in the free market economy after a period of socialism pioneered by the first president. One of the permissions was to allow citizens to start doing business in our country". Mzee Mussa Malobo said. In the 1990's our country went through stale mode with the main cause being people who worked on government offices losing their jobs. Unemployment soared. People with families did not survive in this situation so they started to find alternative income generating activities that helped them to survive with their families. The government's situation was no different as the national income started to decline. Our leaders saw the danger that was coming to us so the government, led by our beloved president, Ali Hassan Mwinyi took a difficult turn and started to permit importation of goods from out of the country and that was the point at which businesses started in our country. This has been my home since 1985 and you know my house is in an area that is potential for business. Thus, after the permission was granted, many people confronted me and asked me to give them a piece of my land to build their commercial spaces. I was not interested in renting out my land due to busyness since I was a land surveyor by profession; I worked day and night. People did not get tired of asking and begging me to give them my piece of land to do their business. Finally I decided to give them only the land and they would build commercial spaces by themselves. I accepted their request and one of the conditions was that their costs for building will be recovered through monthly rent. This arrangement led me to own commercial spaces. Not all of the people who started businesses in my area have managed to survive until now – some have shifted to other places and some quit. Some quit for there reasons so my places rented to another people years after years until now. And here I am.

Narrative 2

THE PHARMACIST OF SOILS

"Kimbaumbau, I remember those days when during the evenings you would put on the Barcelona T-shirt, a pair of short and shoes and then start running to Magomeni Kanisani via Tandale Uzuri road. What were you trying to lose, blood? Ha ha ha ha", One person comments as everybody else is laughing. Kimbaumbau is a Swahili sarcastic word for a person who is very slim. Those are the very first words I hear as I enter a premise full of blocks. The blocks are so many leaving a thin pathway towards where these happy people are seated. I walk towards these people, greet them and ask them for their boss. Besides them is a very beautiful woman with braids seated on a chair. She is tall, slim, wearing a stylish blouse, a light blue jean and sandals. This woman has been on her phone since I arrived. She looks very contented with the conversation she is having. Finally, she smiles and hangs up the phone. Her name is Gloria Asenga, their boss. I approach her, have a little chat and she tells me to come tomorrow morning for more. It's already evening I take a daladala all the way to home. It's early in the morning the next day. I wake up to making my bed ready for that day. I stand by the mirror and talk to it, "This is your day, don't let anyone take it from you." I do my morning chores quickly here and I am at Gloria's place. "I didn't imagine that you'd be here this early" Gloria says as both laugh. After a little chat I ask her, **"Please tell me a brief historical development of your business"** "It's a long story." She starts. "First I am a graduate pharmacist by profession" this amazes me more. I graduated at St. Joseph University and practiced my profession as a pharmacist in different pharmacies before I met the person who introduced me to this job. One day as I was serving in a pharmacy at Kinyerezi, came a man with his wife. They looked for some medicine and left. It turned out those people resided in that neighborhood. After some days the man came and told me, "I like how you treat your customers, I would like you to manage my blocks manufacturing company. You don't have to answer me now. Here is my number, think through it slowly and give me your response when you have made your decision thoroughly." I had never imagined something like that could have happened in my life. Till that moment my life was anointed and that thing surprised and excited me too. That evening, I told my family and some of my friends about the incidence. Everyone advised me according to how they viewed the matter. A week passed while I was still thinking what had happened the other day. Later on I decided to call that man for I had already made a decision. The man promised me a salary which was higher than what I was earning as a pharmacist. After a few days, I came here and I was introduced to the work and team. The company looked very big. It had a large area, many plants, many employees, made many products, and served many customers. Everything went well till when the local authorities said part of the company's area is an open space. I had been working there for 2 years by then. The news pierced the company's existence as a thorn piercing a bicycle's tube. They made the owner of the company to look for another bigger area for his business, in a place where the rate of building construction was high. I was tempted to move with him, but part of me wanted to start something of my own. You know you can't follow your bosses everywhere. Luckily, I used to coordinate the working team and so I had many connections with the customers. After the company shifted its headquarters, the customers called me still for the services. I did turn their demand into my opportunity. At first I would receive the orders and then find a place with a lower price where I would buy to sell to my customers. With time I decided to start making the bricks by my own here. That was in 2016. So far I have expanded a lot both in terms of the tools I use now as well as the quantity of customers. I serve people from different parts of Dar es Salaam and advice the customers where to buy in case they are so far from my work space.

Narrative 3

"I feel very tired, I am tired because I've been on the road since morning and it's around 3 p.m. right now. I find a spot and get seated, I take the bag off my back which I find already heavy due to the tiredness. My head is soaked as if I was rained on but no, Dar es Salaam's hot weather has been celebrating my presence on the road. My righthand dips into my pocket to take a handkerchief and wipes out the sweat which has been dripping off my head. I am exhausted and I restrain myself from cursing the weather."

Besides me there is a shop. " Hello bro, can I have the coldest masafi please?". I find myself talking to the seller. Masafi is my favorite brand of drinking water and very common in Dar es Salaam. The seller gets one bottle for me and I enjoy sips of cold water past my throat as I pay for it. After some time, I feel somehow cool and I decide to count steps towards a place with about 5 people. They call it "kijiweni" in Swahili. I find them drinking coffee and I ask the seller to give all of us a cup of coffee on my bill. "Bro, unatoka Mombasa nini ha ha ha?", One person jokes around. "Mshalipiwa hivyo kunyweni, mimi hapana", (Swahili for "the coffee is paid for, drink with ease, no for me") he adds as everyone of us laughs. I calm them down by saying they don't have to worry it's okay. All of us take the coffee as every person continues with his chats.

After some time, I face the person who joked when I came. He looks like a really cool guy. I now know that he is called Mudi after hearing the others calling his name several times. After having a bit of conversation with him I come to realize Mudi works as a bus conductor for Dar lux. He spends most of his time in trips whether it's to Mwanza, Kahama or Bukoba. I thereafter go on to ask him questions which are really the reason I approached them in the first place.

Narrative 4

HONGERA

"....Hongera to spaces that can speak to the users...."

In the heat of a sunny afternoon, people conduct their businesses along Shekilango road in Dar es Salaam and most of them commute to work as part of their daily routine. Moving around Shekilango road, we meet a 43 year old woman, Martha Swai who owns a car wash famously known as Jeri car wash and services. Martha does not live near the Shekilango road but gets there every day early in the morning and leaves around 9:00pm. Martha owned other types of businesses before the car wash, she moved to Shekilango road five years ago and bought the car wash from a person she barely knew, because free plots had not been available for a long time, especially along Shekilango road. Most of the spaces are occupied so, getting a car wash was a dream come true for her and that made her cancel all plans of moving to another place or opening another business for at least 10years to come.

After all of the afternoon's hard work, Martha needs someone or something to acknowledge all her efforts and she found just a place telling her "hongera" (which means congratulations) for all the hard work she does whenever she gets in or out of the Shekilango road. That is the famous 'Hongera bar and grill'.

Therefore the name Hongera as seen clearly by the people passing by Shekilango road, are the words of encouragement to everyone working or passing by Shekilango road. And Martha insists "We need more spaces that provide us with our needs but also ones that speak to us, that is what we need especially in a busy place like Shekilango road".

Narrative 5

FREEDOM.

"Freedom is not given but it is achieved....."



Born as a sixth child in a family of seven children, Mabala was a curious child and loved to explore a lot of activities. He would always create various playing tools for himself as a child. He would play with his older siblings in their home playground, but as they grew older, they played less and less. Mabala was still interested in creating different tools, so when he was taking his ordinary level, he would always stop by a carpentry shop near his home and help the carpenter who was his neighbour. He then started working under a construction organization after he finished his advanced level studies. But he noticed that his work life and his school life had no difference, he was required to wake up early report to the office and leave late when the work was over under the permission of his employer and received a monthly salary that could not sustain him (100,000 TZ sh). Mabala decided to quit working as an employed man and searched for jobs that paid him with relevance to the time or work performed (part time jobs). He did this to save money so as to start his own business. But Mabala was not satisfied. He needed more money as he yearned for freedom in his finances so he decided to apply for a job at a window and door manufacturing workshop. He worked very well with his employee and he used his creative skills to impress both the employee and most of the clients. Mabala got a client that was a personal work tender of his own and was allowed by his owner to create the aluminium windows there due to the good relationship he had created. The money he received from the job together with the one he had saved enabled him to rent his own workshop at Sinza and he finally started to be his own boss. He was happy that there was no one to control him on his daily schedule. Now Mabala is famous for his job locally, he has about four employees, and does different activities during the day which gives him the freedom and happiness that he longed for.

Narrative 6

Title: Mkeka betting

It's Monday, in the middle of the afternoon, late September at Bamaga area opposite Institute of Social Works. Salum is sitting in a seemingly cozy outdoor pub in the shade, chatting with a friend; his friend ordering a Hill water bottle from a waitress and communicating with Salum in a vernacular language. "Osiye, onga mshi! Tiwedi hangi zei". A young boy parked a bajaji (tricycle) and called Mr. Salum; "I need to withdraw one hundred thousand shillings in my Vodacom number (Mpesa)". He proceeded; "Mzee, why don't you stay in your booth to serve people? You just roam around in the bar, "shehe weye walewa mchana?" meaning dude, you drink alcohol in the daytime?". Salum replied; "My friend, don't you feel the heat of the sunny day? I had to find a relaxed spot as I'm having speculative customers at this noon. I'm used to the cold weather of Lushoto so I'm having trouble with the Dar es Salaam weather. Let me crosscheck if I have enough cash amount of money in my wallet to give; Haha! You are lucky I have one hundred and fifty thousand shillings". He said, "Send that 100k you want to withdraw through Agent code number xxxxx and the name will appear Salum Walter Shekuyayo". He was approached by the bajaji owner who was waiting for the transaction to be completed; laughing at him "unamiliki dola mzee" meaning "you own dollars man". In fact, Mr. Salum is a 35-year-old living at Changanyikeni in Dar es Salaam. The bajaji owner joked, "I can comfortably pay sadaka at the comfort of my living room, without going to church". Salum replied; I remember at Usambara Mountains, we went hiking, ran out of fuel and we had to walk a few miles to buy fuel with "lipa na Mpesa". Salum proceeded to talk; "You have a lot of money boy nowadays where do you get from?" He replied, Haha! "mkeka huo" I play a lot of betting games". He proceeded, "I'm a big fan of SportPesa and Meridian betting. Putting a stake to earn 50k-100k is a calm and easy bet; the problems come when someone bets eleven teams for just one thousand shillings to earn a million". Salum replied with "I really need such tuition my friend, you should introduce me into betting business" The bajaji owner replied, I should give you the tips about rule of betting "bet what you can afford to lose". He proceeded, these betting games are like "bahati nasibu" meaning lottery. Yet, Salum laments, "I have played the lottery for years, and I have never won anything; I think you have to be my mentor". Bajaji owner proceeded to talk; "Last weekend I had a stake which I didn't bet matches for win, lose or even a draw but can you imagine I had other betting options like corners, yellow cards, goals (both teams score) and it worked out?" "Mr. Salum; you need to go through fixtures and take two games/football matches with odds of 1.50 and 1.40. Then putting your stake let's say ten thousand shillings and you will be expecting to earn 19,000/= up to 20,000/= Ths. Do it every day whenever there is a good fixture and remember not to be greedy".

"....Earning ten thousand shillings a day is not uncommon...."

Narrative 7

SUPU YA PWEZA.



"I am on a mission to promote a healthy life style. Instead of junk food chains, outlets offering soups and fruit juices should spring up in the city. All the residents and walkers around Sinza Madukani know me. After an exhausting day, they quench their thirst with a hot bowl of my Octopus (*pweza*) soup. They smile blissfully as they munch on the meat, floating on top of it. After the soup they are pumped up and ready for one more round. I basically work in the sales department of a company. I do this out of sheer passion. Three years ago, I suffered a mild heart attack. The doctor advised me to walk. I used to come here for my morning work outs. I noticed there were very few refreshment stalls for the walkers. That encouraged me to set up the soup stall. Initially, people were curious to know what I was selling. Slowly, the soups became popular. Now the customers love my soup. Some of them even order take-aways for their family. I come here as early as six in the evening and serve soup till ten. If the walkers are hungry they can have bagia added to the soup. My wife and I wake up at five in the morning to prepare the soups. She makes around 100 bowls. Each bowl is priced at 1000 shs plus some few pieces of *pweza*. I get customers of all age groups. I don't come on Fridays because on this day I get to have time with my God. I am surprised to see many children enjoying my soup. I am on a mission to promote a healthy life style. Instead of junk food chains, outlets offering soups and fruit juices should spring up in the city. I can easily feed my family with the money I make out of my sales business. Profit is not what drives me to do this. I do this because it makes me happy.

"....Hungry and thirsty? Soup solves both problems at once...."

Narrative 8

Residential or Commercial

It's uncommon to hear about businessmen who used the wealth they made from a previous endeavor to build a thriving business into something new. I recently heard that owning a rental house along the road is less profitable compared to owning rentable shops. I acquired this piece of information from a certain businessman who goes by the name Juma. Juma, who owns approximately 365 sqm plot along Shekilango road whereby he built rentable frames and a rental house. According to Juma, he intends to demolish the shops and construct new ones due to the fact that the available shops were built a long time ago and are of less value. For the sake of rental houses, he intends to refurbish it into a complete commercial space. At first it was hard for me to believe what Juma said concerning rental houses, but Juma took time to convince me that owning a rental house can be a bit challenging compared to rental shops. This is because rental houses require constant maintenance. Apart from maintenance also when it comes to sqm rates of commercial against residential space, the difference is quite significant. For a rental shop of 7sqm, the monthly rent is 300,000 Tanzanian shillings while the monthly rent for a residential house of 100sqm the monthly rent is 500,000 Tanzanian shillings. In order to justify the profitable fact we introduce the issue of rates, whereby a commercial space is approximately 48,000 Tanzanian shillings per 1 sqm and a residential space is 5,000 Tanzanian shillings per 1sqm.

Narrative 9

The blown-out candle



Informal sector is a driving engine for most of low income families to survive from the whips of hunger, unemployment and poor housing. These so called small businesses have always been a subject of removal in big development projects specifically road construction and expansion with no proper means of safeguarding them from the shockwaves of huge commercially oriented development projects in Dar es salaam. Juma is a 25 years old male who lives at Sinza and started his small business selling sugarcane juice at the junction of Tanesco road and shekilango road. He has been in business for more than 5 months, Juma moved from Kolandoto, Shinyanga town to Dar es salaam with a wife and a child in search of a better life and employment. Sugarcane and sugarcane juice business is an interest of a number of people, most of whom are found in bus stops. It is easy for vendors to capture commuters coming in and going out of bus stops. Reallocation of the Mugabe bus stop as a result of the road expansion, has greatly affected Juma's sugarcane business. Since the new road does not consider his business, which was a means to provide for his family, Juma is witnessing all his efforts shuttered into pieces.

Narrative 10

The best lingerie in town

"My name is Elizabeth and I live at Mwenge Mpakani. I am a mother of one child. I was a university student when I started selling lingerie. I used to buy lingerie in wholesale shops and roamed the university hostels selling door to door in retail to my friends and other students. I had so many customers and saw that it was a very good business since it required only a small capital and it sometimes helped me to cover the small needs such as buying my small laptop for my studies. I did this business from my second year at the University, I was taking a three year course and went on with this business until I graduated. After I graduated, I stayed home and sought employment for a very long time but I was never successful and thought to myself what if I employed myself, with the business I had already started and had experience with"?. I then, started my small shop in Mwenge where I got some new customers most of whom were my friends from the university. The shop helped me pay my rent, and support my family. This was three years back before I had the idea of expanding my business and open a bigger shop. In the year 2016 on the last months of that year, one of my friends advised me on renting a bigger frame (retail space) in Sinza. Honestly, it was a nice idea to me but I was not aware of where exactly I would locate the shop and whether or not I was going to get enough customers as the ones I had in Mwenge. I involved brokers to get a frame in Sinza. When I got to open my shop here in the year 2017, I have been able to increase my income and even been able to employ one lady to sell at the shop. I have really benefited from this business and I would expect to open other branches of my business in other places in Dar-es-Salaam and outside of Dar es Salaam.

Narrative 11

Dada Neema

“Habari za muda huu dada? – Nzuri, sijui niwasaidie nini?” (Swahili for “How are you this afternoon? – I am well, how may I help you?”). That was her reply to us. “We are researchers conducting a research on participatory practices and informal design processes along Shekilango road. We are very sorry for disturbing you. We will be honored and grateful if you give us your time for a little while. We will introduce ourselves by name and give a short brief of the purpose of the study. We would like to get a short story of your business particularly its origin, moments of shift, benefits and how it has evolved over time.

“ Okay, my name is Neema, you can call me Dada Neema, that’s a common name amongst my costumers. I was born in Iringa, but I won’t tell you when. I grew up in Iringa and after completing my primary school education, we moved to Dar es salaam. My parents migrated here in search of a better life, I guess. I joined Jordan secondary school where I completed my o-level studies then I joined Magogoni College to pursue a certificate and diploma in Public Relations. After graduating, I had nowhere to go. It was hard to find a job and the only opportunity was business. I started fund raising to get capital for opening a business. During that time, I was lucky to find the love of my live and we were blessed to have a baby girl. Even though we didn’t officially get married, both our families were aware of our situation. After getting enough funds, I was more interested to open my business at Sinza since it was near my place of residence and also due to the fact that it was a thriving and rapidly growing business area. My only target was any place along Shekilango road. Most importantly, the biggest criteria was that the shop had to face the road. It was not difficult to find spaces in the area but I used a broker. I was lucky once again – a commercial space at very close proximity to our house just as I wished. In fact it was only a 10-minute walk. Now I have been here for about four or five years and the business is still going well, thanks to God. This business has helped me cater for my family needs. Life is good and for the will of God I will shift to another area when my business grows bigger since as you see here, the space is limited for expansion. “Tuombeane tuu mambo yawe safi”. (Swahili for “lets pray for each other for success”).

Narrative 12

The pharmacist



"I'm Dr. Ngowi, a licensed pharmacist. I have been in this field for the past eleven years working in different medical accessory stores in Dar es Salaam. We receive different customers from morning to evening, at a range of not less than 20 people per day, mostly in the late noon. We service by cash, or by prescription slips from hospitals. We also serve customers who have the national insurance cover (NHIF). We run the shop every single day in a week by taking shifts, as of us all three. My medical journey started when I graduated from a medical school at St. Joseph in Dodoma in 2007. I then started working at a referral hospital in Dodoma before I entered Magomeni hospital here in Dar es Salaam for two years. In 2014, I started working here as an assistant pharmacist until now.

Narrative 14

The Tukuyu boy.

In a midday hour, somewhere near Sinza cemetery, we approach the Tukuyu boy shop selling cereals. 'bro mambo vip' (Swahili slang for "good afternoon brother"). He replies 'shwari' – Swahili for "fine". He thought that we went to buy some cereals in his shop. Nonetheless he was joyful when it turned out we wanted to chit chat with him. " We could tell from the look on his face, "karibuni" (welcome), he says. The Tukuyu boy was born in Mbeya city – Tukuyu in 1989, with so much ambition as a little boy to become someone important in this country. His parents were farmers. He went to school but it didn't turn out well partly because he didn't put so much effort in school due to poverty in his hometown in general. He needed to support his family at the same time he needed to be at school. When he completed his secondary school in 2006 he failed to continue with his studies so he decided to shift his energy into making money to support his family. Before the establishment of the existing shop, there were a number of different business ideas, he first started farming at Tukuyu-Mbeya, then he became a whole seller of cereals in Mbeya Town before securing a deal of becoming an agent of one of the companies in Mbeya city – Raphael Group limited. He then shifted to Dar es salaam for more expansion of their business in 2015. He started distributing rice and beans to different sellers at Kawe market. Then he become a permanent seller directly from Mbeya and settled at Sinza Makaburini. He is a happily married man and God has granted him two healthy and happy children. He is also looking forward to adding more children if God wishes, he remarked. "This is because there is so much happiness when you have a big family". He insisted. Ever since he started working so energetically, his life had turned out well. Even though it doesn't pay him much but he has also impacted other people's lives. Among many other helping hands, he has put his relatives to school and supported their lives.

Narrative 15

Pemba café



“What an interesting story about my life that I have to tell you. Where do I start? After struggling to make ends meet and with no permanent and paying jobs, I took to selling clothes, drinks and eggs and later started delivering eggs to customers, continued selling clothes and added alcoholic beverages, particularly beer in my store. All these activities started when I was 20 years old. I shifted from one business to another in vain because I had no confidence since I have no formal education and had no knowledge in entrepreneurship whatsoever.

Where would I be if it wasn't for my mother? My capital – 20,000 Tanzanian shillings, came from my mother. Even though I was switching from business to business, my biggest desire was running a food business. The Shekilango road, with its thriving businesses, looked very potential for food business. Three years ago, I had to make up my mind and get into the food business. I don't and will never regret this decision as I get customers from nearby shops who are regulars. I also get customers from places such as Ubungu and Mwenje most of which are passersby or are in Sinza for short business affairs.”

Appendix 2: Documentary evidence: letters from residents to authorities

Appendix 2A: A letter from Lantana Hotel to TARURA (2020)



Plot 354 Block B, Sinza kwaRemi
P.O. Box 78669, Dar ES Salaam
E-mail: info@lantanahoteltz.com
Hotline: 0717188354 , 0754813440
Reception: 0769335988, 0782539958
Website: www.lantanahoteltz.com

Kumb: LAN/2020/09/01

10.09.2020

Meneja wa TARURA,
Manispaa ya KInondoni,
S.L.P 31902,
Dar Es Salaam.

Ndugu,

YAH: BARABARA YA SHEKILANGO INAYOJENGWA

Rejea kichwa cha habari hapo juu.

Napenda kuipongeza ofisi yako ya TARURA na serikali kwa ujumla kwa kuijenga tena barabara hii kwa kuipanua na kuwa suluhisho la foleni kubwa iliyokuwa imeanza kujitokeza katika barabara hii.

Pamoja na pongezi hizi, sisi wafanyabiashara na wakazi wenye magari katika eneo la sinza "B" hususani hoteli yetu ya LANTANA iliyopo sinza kwa Remi njia ya kuelekea kanisani la Katoliki tutaathirika kwa kiwango kikubwa kutokana na muundo wa barabara hii ya kuweka ukingo katikati kuzuia kuchepuka kutoka upande mmoja wa barabara kuingia barabara za mitaa upande wa pili.

Biashara yetu inategemea wageni kutoka airport na stendi ya ubungo wanaoletwa na magari, kwa namna barabara itakavyokuwa katika eneo hili itawapa wakati mgumu wa kutafuta mchepuko na kupita barabara za mtaa za vumbi zilizo na mabonde kwa urefu mkubwa kitendo ambacho tutawapoteza wateja hao kutokana na ushindani wa biashara ya hoteli.

Kama hoteli tumepitia wakati mgumu sana kibiashara katika kipindi hiki cha ugonjwa wa Corona na sasa muundo wa barabara hii unakuja kuuwa biashara yetu kabisa ukizingatia tumefanya uwekezaji mkubwa.

Kilio hiki ni cha wafanya biashara wengi katika eneo hili ila wanakosa au kushindwa namna ya kuwakilisha maoni yao na kusunoneka rohani badala ya kufurahia uwekezaji mkubwa unaofanywa na serikali yetu katika miundombinu.

Tunaelewa barabara hii huwenda inajengwa kwa nia ya kuongeza mwendo kasi (High way) lakini ieleweke kuwa watumiaji wengi wa hii barabara wanaishia katika eneo hili la sinza ambao watahitaji wepesi wa kuingia katika maeneo wanayokwenda pasipo kuzunguka sana.

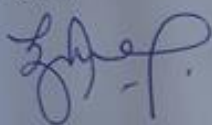
OMBI

Sisi Lantana hotel tunaomba kama itakupendeza na kufaa, angalau tuweze kupata mchepuko mmoja wa kuingia mtaani katika eneo hilo hususani mtaa ambao upo mkabala na kituo kipya cha mafuta cha LAKE OIL kuelekea Kanisa katoliki au karibu na kituo cha Remi.

Ni matumaini yetu ombi letu litafikiliwa kwa namna moja au nyingine.

Tunatanguliza shukurani zetu na tunakutakia kazi njema za ujenzi wa Taifa.

Ndimi,



ISAKA LAZARO
Mkurugenzi
0717188354.



Nakara:

✓
Mwenyekiti
Serikali ya Mtaa,
Sinza "B"

Appendix 2B: A letter from Azania Hotel to the local government (2020)



Appendix 2C: Minutes of a meeting between environmental experts and residents (2020)

MUHTASARI WAKIKAO CHA TANROAD, WASHAURI WA MAZINGIRA KILICHOKETI TAREHE 30 / 09 / 2020 KATIKA UKUMBI WA AFISA MTENDAJI WA KATA.

MAHUDHURIO:

NA.	JINA	CHEO	SIMU	SAHIHI
1	ERICK TARATIBU	MWENYEKITI	0719552265	<i>[Signature]</i>
2	NDESHIMUNI E. MUTAKYAWA	KATIBU(SCDO)	0765308903	<i>[Signature]</i>
3	ALLY R. MGAYA	M/KITI SINZA 'A'	0713115566	<i>[Signature]</i>
4	SAIDI KAUNGA	M/KITI SINZA 'B'	0719762763	<i>[Signature]</i>
5	JOYCE MTULI	AFISA AFYA	0713320030	<i>[Signature]</i>
6	FATUMA JABIR	MEO SINZA 'B'	0717626286	<i>[Signature]</i>
7	ESTHER MNZAVA	SOCIOLOGIST	0717380842	
8	SAMWEL MAGUYA	ENVIRONMENTLIST	0768356242	
9	GRACE MWANG'AMBA	ENVIRONMENTLIST	0765815937	
10	NASIBU MARJAN	ENVIRONMENTLIST	0656094007	
11	WILHELMINA ASSEY	ENVIRONMENTLIST	0762151064	
12	HABIBU SEUSHI	MJUMBE SINZA 'A'	0715525252	<i>[Signature]</i>
13	PILI HAMISI	MJUMBE SINZA 'A'	0717275665	<i>[Signature]</i>
14	ELIZABETH LUBUVA	MJUMBE	0713708790	<i>[Signature]</i>
15	NASSOR S. MALIGWAU	MJUMBE	0715913333	<i>[Signature]</i>
16	ABDALLAH S. DUNDO	MJUMBE SINZA 'C'	0757563552	<i>[Signature]</i>
17	MARTHA BONDO	MJUMBE SINZA 'B'	0716796376	<i>[Signature]</i>
18	IDDY A. MGWENO	MJUMBE SINZA 'A'	0713477456	<i>[Signature]</i>
19	SAMIRA RAMADHANI	P/S KATA	0716968153	<i>[Signature]</i>

AGENDA:

1. KUFUNGUA KIKAO
2. UTAMBULISHO.
3. UTAMBULISHO WA MRADI.
4. KUFUNGA KIKAO.

AGENDA NO.1 KUFUNGUA KIKAO

Mwenyekiti alifungua kikao muda wa saa 10:14.

AGENDA NO. 2 UTAMBULISHO

Mwenyekitia aliwakaribisha wajumbe wote waliohudhuria kikao wajitambulishe. Baada ya utambulisho mwenyekiti alisoma agenda inayofuata.

AGENDA NO. 3 UTAMBULISHO WA MRADI

Mshauri wa Mradi alisema mradi huu wa barabara ya mwendo kasi ni awamu ya nne. Pia alisema wao ni washauri ni private sector, wanashauri Tanroad kuhusu athari za mazingira zitakazotokea pindi mradi utakapokuwa unatekelezwa.

Alisema awamu hii ya nne inanzia posta, maktaba mpaka Sinza kwa kupitia Mwenge mpaka kituo cha Simu 2000 kwa kupitia barabara ya samnujoma. Eneo litakalotumika kupitisha mradi ni eneo la katikati ya barabara. Maegesho yatajengwa maeneo ya makongo hilo eneo litatumika kuegeshea magari na kuingia kituo cha mwendokasi.

Katika barabara kutakuwa na vituo vya kushushia abiria.

LENGO:

Kupunguza foleni ingawa hadi sasa foleni bado zipo.

FAIDA ZA MRADI HUU:

- Kutakuwa na ajira mbalimbali kama za Udereva, walinzi, vibarua na fursa kwa mama lishe kuuza chakula kwa watu watakaokuwa na wanafanyakazi.
- Pia mradi utakapokamilika kutakuwa na ajira kama za ukataji tiketi, walinzi na madereva n.k

HASARA PINDI MRADI UTAKAPOKUWA UNATEKELEZWA

- Athari ambazo zinaweza kujitokeza ni kukatika kwa mabomba ya maji safi, maji taka au nyaya za umeme.
- Wafanyabiashara wadogowadogo wanaweza wakaathirika kiuchumi kutokana baadhi ya feeder road kufungwa hivyo wateja watapungua.
- Kelele zitakazosababishwa na mashine.
- Mitetemo ya mashine ambayoinaweza ikasababisha nyumba kwenye nyumba zilizopo jirani.
- Vumbi litaleta athari za kiafya kwa wapita njia na wafanyabiashara.

USHAURI

Tunashauri kabla ya mradi kuanza tunashauri Mkandarasi awasiliane na mamlaka husika ili kuepuko kero za kukosa huduma za maji na umeme pindi mradi utakapokuwa unatekelezeka.

Mwenyekiti aliwauliza wajumbe kama kuna mtu mwenye swali au kupata ufafanuzi zaidi.

- Mjumbe wa Sinza A alisema anatambua kuwa mradi wa mwendo kasi ni awamu ya nne ila anataka kujua mradi utaanza lini?
- Mshauri wa mazingira alisema mradi umeshaanza wapo katika hatua za kiupembuzi na kazi hiyo wamepewa miezi 7 na wapo ndani ya mkataba huo na baada ya hapo wanawasilisha Baraza la mazingira.

AJIRA

- Walisema project inafanyika mjini na mara nyingi Mkandarasi anakuja na watu wake ila atakapokuja kujitambulisha mtawaomba ajira vijana wenu.
- Mjumbe mmoja alisema kama mradi unapita kwenye eneo inatakiwa wahusika wanufaika.
- Mara nyingi mkandarasi anakuja na watu wake kutokana na kuepuka usumbufu wa vibarua kuwa wategaji hivyo mtu asipoenda kazini inamlazimu kutafuta kibarua mwingine ili kazi zake zifanyike kwa wakati hawezi kumsubiri mtu. Hivyo alishauri wafuatilie suala hilo la ajira na pia vijana wenu wawe wachapakazi na waaminifu.
- Mjumbe mwingine aliongelea kuhusu upatikanaji wa vifusi, kwenye vikao kama hivi tunashirikishwa lakini ukienda kuomba kifusi hupewi wakatikipindi cha kutekeleza mradi magari yao yanapita kwenye barabara za ndani na zinaharibika hakuna Maboresho yoyote wanayotufanyia zaidi yakutuachia mashimo. Pia aliongeza kusema kuwa vikao kama hivi mnatuita tu ili mradi lonekane kuwa wenyeviti na wajumbe wameshirikishwa lakini kwa uzoefu wangu hakuna ajira zitakazotolewa kwa vijana wetu tutakachoshukuru ni kupata hiyo huduma ya barabara ya mwendokasi. Tunapeleka malalamiko lakini hayafanyiwi kazi.
- Mshauri alisema tusilalamike ila tupendekeze nini kifanyike wakati wa mradi utakapokuwa unatekelezeka.
- Mjumbe mwingine alihoji kuhusu mradi wa Barabara ya shekilango upo chini ya Tarura au tanroad pia aliuliza kuhusu kuziba Paking mana wafanyabiashara wanalalamika. Alijibiwa kuwa mradi upo chini ya tanroad lakini ukikamilika barabara zitakuwa chini ya Tarura. Pia alisema mradi wa Shekilango bado haujakamilika bado wanatengeneza mitaro.
- Afisa maendeleo alisema hivi vikao vishirikishwe kamati zinazoundwa zipewe vipaumbele, na pia alishauri vikao kama hivyo wangukuja na ramani ili watu wajue mradi ukikamilika unakuaje ili kuepuka kero kama hizo za wafanyabiashara kuzibiwa paking ina

maana wangeona mchoro mapema wangeweza kutoa ushauri kwenye maeneo yao ya paking.

- Mshauri alisema lazima barabara iwe na njia ya watembea kwa miguu hivyo kama mtu biashara yake kama itakuwa na eneo la paking hataziwa kwa kuta. Pia mchoro unaweza kubadilika muda wowote ni ufuatiliaji tu.

MENGINEYO

Mjumbe alihoji kuhusu athari za nyufa za kwenye nyumba za watu je watalishughulikiaje?

Wahusika walisema kabla ya mradi kuanza watapita kupiga picha nyumba zilizopo jirani na barabara.

Ombi.

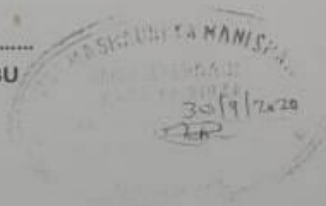
Kama nafasi za ajira zitakwepo tungependekeza zipitie kwenye ofisi za serikali ya mtaa.

AGENDA NO. 4 KUFUNGA KIKAO

Mwenyekiti alifunga kikao mnamo saa 11:41 asubuhi kwa kuwashukuru wajumbe wote waliohudhuria kikao.

Muhtasari huu umeidhinishwa na kusainiwa na


ERICK B. TARATIBU
MWENYEKITI




NDESHIMUNI E. MUTAKYAWA
KATIBU

Appendix 3: Research clearance letters 2019-2022.

Appendix 3A: Research clearance (2022)



JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS,
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA MANISPAA YA UBUNGO



Unapojibu tafadhali taja:

Kumb: Na. AB.94/216/01/11

Tarehe: 14 Septemba, 2022

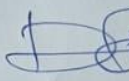
Mtendaji wa Kata ya Ubungo na Sinza,
Halmashauri ya Manispaa ya Ubungo,
DAR ES SALAAM.

Yah: **KUFANYA UTAFITI**

Tafadhali husika na somo tajwa hapo juu.

2. Mkurugenzi wa Halmashauri ya Manispaa ya Ubungo anapenda kumtambulisha kwako **Bw. Richard Moses Besha** kutoka Chuo Kikuu cha Dar es Salaam kwa ajili ya kufanya utafiti kuhusu **"Actors' Interactions and Livelihoods in Self-Organized Commercial Streets in Dar es Salaam, Tanzania"**. Utafiti huo unatakiwa kuanza 01 Agosti, 2022 hadi Septemba, 2022.

3. Naomba umpokee na kumpatia ushirikiano.


Kny: MKURUGENZI WA MANISPAA
HALMASHAURI YA MANISPAA YA UBUNGO
DAR-ES-SALAAM

Mtoy P.R.

Kny: **MKURUGENZI WA MANISPAA**

Nakala: Mkurugenzi wa Manispaa,
Halmashauri ya Manispaa ya Ubungo,
DAR ES SALAAM.

- Aione kwenye jalada.

Bw. Richard Moses Besha,
Chuo Kikuu cha Dar es Salaam,
DAR ES SALAAM.

Appendix 3B: Research clearance (2021)

HALMASHAURI YA MANISPAA YA KINONDONI

BARUA ZOTE ZITUMWE KWA MKURUGENZI WA MANISPAA

Simu Na: 2170173
Fax Na: 2172951

Unapojibu tafadhali taja:

Kumb Na: KMC/LD/12/46008



MKURUGENZI WA MANISPAA
MANISPAA YA KINONDONI
S.L.P. 31902
2 BARABARA YA MOROGORO,
14883 DAR ES SALAAM

Tarehe: 08/02/2021

Meneja wa TARURA,
Manispaa ya Kinondoni,
S.L.P. 31902,
DAR ES SALAAM.

**YAH: KUMTAMBULISHA NDG.RICHARD MOSES BESHA KUTOKA CHUO KIKUU ARDHI
ANAEFANYA UTAFTI**

Somo la hapo juu lahusika

Mtajwa hapo juu ni mstumishi wa chuo kikuu Ardhi anaesoma shahada ya uzamivu katika chuo hicho.
Kwa sasa anafanya utafiti juu ya "*Design Practices and Livelihoods in Informally Generated Commercial Corridor Spaces*".

Kwa barua hii nawatambulisha kwako ili uweze kumpa msaada unaohitajika.

Asante.

Masanyiwa ER

Kny: **MKURUGENZI WA MANISPAA
KINONDONI**

Nakala: Richard Moses Besha,
Ardhi University,
P.O.BOX 35176,
DAR ES SALAAM

Appendix 3C: Research clearance (2020)

UBUNGO MUNICIPAL COUNCIL
ALL CORRESPONDENCES TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

Tel: 0222-926341
Fax: 0222-926342



P. O. BOX 55068
DAR ES SALAAM.
18-09-2020

E mail info@ubungomc.go.tz
Website: www.ubungomc.go.tz
Ref.AB.27/333/11

Richard Moses Besha
Ardhi University
P.O.BOX 35176,
DAR ES SALAAM.

RE: **RESEARCH WORK**

Refer to the above heading.

I am pleased to inform you that your above request has been considered by the Municipal Director, and has offered you a place to research attachment from **September 2020 to January 2020** concerning **Design and Livelihoods in Informally Generated Commercial Corridor Spaces: A case of Shekilango Commercial Corridor in Sinza, Dar es Salaam.**

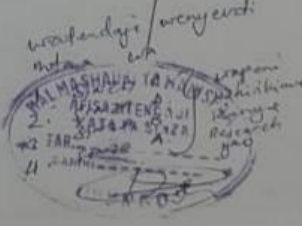
Upon receipt of this letter, please report to the **Ward Executive Officer -Sinza** for commencement of your research.

During the period of research you are required to obey the rules and regulations of the institution.

Yours Sincerely,


E. F. Kisenye
For: THE MUNICIPAL DIRECTOR
UBUNGO

Copy: Municipal Director,
P.O.BOX 55068,
DAR ES SALAAM.

Appendix 3D: Research clearance (2019)

UBUNGO MUNICIPAL COUNCIL

ALL CORRESPONDENCES TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

Tel: 0222-926341

Fax: 0222-926342

In reply please quote:



MUNICIPAL DIRECTOR UBUNGO
MUNICIPAL COUNCIL,
P. O. BOX 55068
DAR ES SALAAM.

DATE: 09/05/2019

Ref. AB.27/333/01

Richard Moses Besha,
Ardhi University,
S.L.P. 35176,
DAR ES SALAAM.

RE: **RESEARCH ATTACHMENT**

Refer to the above heading.

I am pleased to inform you that your above request has been considered by the Municipal Director, and has offered you a place to research attachment from **13 May, 2019 to 13 August, 2019.**

Upon receipt of this letter, please report to the, **Ward Executive Officer – Sinza** for commencement of your research.

During the period of research you are required to obey the rules and regulations of the institution.

Yours Sincerely,

B. A. Mwanje

For: **THE MUNICIPAL DIRECTOR**
UBUNGO

MUNICIPAL DIRECTOR
UBUNGO MUNICIPAL COUNCIL
DAR-ES-SALAAM

Copy: Deputy Vice Chancellor – Academic Affairs,
Ardhi University,
S.L.P. 35176,
DAR ES SALAAM



Appendix 4: Interview questions
Appendix 4A: Guide questions: – PILOT and Main data collection

QUALITIES AND SELF-ORGANIZED PRACTICES ALONG SHEKILANGO COMMERCIAL STREET IN DAR ES
SALAAM, TANZANIA.

A joint PhD study in UHasselt, Belgium and Ardhi University, Tanzania.

Research goals

The main intention of this research is to study how the existence of commercial spaces along movement spines in residential neighborhoods benefits urban dwellers. The benefits can be in terms of service provision, income generation, employment and amenities that have come about due to the existence of the spaces. This however, describes the micro-economic impact that commercial streets seem to have on neighborhoods. On the macro-economic scale, we will investigate how the business contributes to the economy on a larger scale through aspects such as formal supply chains. The research also seeks to understand how various actors can be involved in the creation of cities through participatory design. Among many other things, this research seeks information related to how businesses/commercial spaces along urban streets have been informally formed/transformed, how they operate and who they serve. This study will be done by Richard Besha and research assistants from Ardhi University. The history of commercial spaces is studied in order to know the stages the businesses have undergone, thereby mapping their growth. We will also investigate problems and shortcomings that are a result of the existence of the commercial spaces in residential areas. Policies and government regulations that support or hinder the businesses will also be a subject of discussion. Lastly, we will seek information related to future business growth that might inform or question relevant spatial development policies and decisions made by authorities, users, professionals and other actors. This in turn will not only safe guard existing jobs but also ensure the formulation and implementation of policies that foster livelihoods of urban dwellers.

Case study

One case study will be selected for the pilot study. An in-depth study of the same will be done in which observations and interviews for a few selected commercial spaces will be conducted. Photographs will be used for capturing events and aspects such as spatial qualities, street character, typologies and interactions between the business owners/entrepreneurs and the users.

Data collection methods

Observation

Direct observations will be done in order to capture events, relations and interactions. Below are amongst things that will be observed and captured using photographs and where necessary videos:

- macro and micro economies (supply, delivery chains and informal employment),
- service provision and interactions (how, who and where are they from)
- users' behaviors.
- impacts; pollution, chaos or nuisance.
- typologies; business and building types, spatial qualities.

Interviews and Respondents

During the pilot study, interviews will be conducted using guide questions that are meant to understand important bench marks, stages and setbacks of the businesses. Business owners/ entrepreneurs, dwellers, suppliers, customers and users will be interviewed. However, the main focus will be on the business owners/entrepreneurs. The following information is expected to be obtained during the interviews:

- The history of the business
- Important stages/benchmarks in the business
- The informal design processes and appropriation
- The contribution of the business towards livelihoods of the dwellers
- Tensions due to the co-existence of the business
- Business/growth setbacks (unfavorable policies, regulations etc) and actions taken
- Future prospects for growth in terms of; extensions, expansion etc

We will limit the time investment for the participating companies/businesses. And we will share all the results of the research with the respondents, so that they can also benefit from it since it is meant to improve policies in place that address issues related to business and commercial spaces.

To give an idea of what it would mean to participate in this research, Herein below find how the research will be conducted.

- The research team will contact the respondents for the first time and make an appointment at the business premises. If a historical documentation of the business exists, it can also be handed over upon consenting.

Phase 1:

A researcher comes and maps how a company/business relates to the environment. An interview is done with the respondent, as a business owner/operator or entrepreneur. An outline of the relationships between the business and the environment will be made and a number of photos are taken of the environment. The environment, in this sense means the functions, spaces, people etc that surround the business/company. It is at this stage that you can choose which photos should be made public.

The result? This session aims to provide a positive story about how businesses have evolved over a period of time and how they positively impact the environment in which they exist. Your company is an example case.

Phase 2:

We will conduct discussions on the co-existence of businesses and residences/other businesses and how strengthening or improvement can be made. Due to busy day to day schedules, this will be conducted during lunch hours (or any other time deemed convenient for the respondent). Other business owners/entrepreneurs will be present. We ask for the commitment of at least one of the employees of the company for two hours, preferably the business owner/entrepreneur with whom we previously had a conversation with .

The result? This session wants to convey the story previously told (in phase 1). This might establish recommendations or areas that need interventions for sustainable existence of commercial spaces in neighborhoods and smooth business operations. Your company is still seen as an example case.

INTERVIEW FACTS:

Name person:

Activity:

Location:

Type of business:

Surface area:

Number of employees:

Tipping moments

We already have some historical material about your company here before us.

We do not have historical material about your company. Please give us a brief history.

Identify turning points in the growth of your company/business. Explain how and why.

What changes did it involve in the room / location / staff / contacts / network / work material?

Design and Spatial planning:

Business ownership and start up

- Do you own or rent the property?
- Do you live here?
- If not, where do you live?
- Was it difficult to find the property? How did you do it?
- Has the space of the business always been there? Was it extended or built from scratch?
- Why did you decide to build a commercial space or start a business?
- How have you expanded your business in the past?
- What was the trigger to conduct business here? (regulation, mobility, space, ...)
- What was the trigger to hire people (if you have)?

- Important purchases?

Transformation and design processes

- What are the major/minor changes that have happened on the exterior or interior of the space?
- What were they for?
- Who did you involve in the alterations/extensions? (authorities, professionals, artisans, contractors, family)
- How useful were the people who were involved?
- Were there any problems associated with the involvement/exclusion, what was it?
- Were permits required for construction changes (expansion, extension, openings, etc.)
- What were the hindrances during the transformation stages?
- What did you do to overcome the hindrances?

Description of business/commercial space (Observation)

What kind of place is it:

What does it look like,

What is it used for,

How is it (spatially) organized?

Which activities are performed there?

What is their purpose? What work material / tools do you use for this and where is it located in space?

When will the different activities be carried out? day / night, week / weekend, winter / summer

Who comes to this workplace? What brings them here?

Which materials and / or products are part of the production process or the operation of the company?

Where do they come from?

Where are they going? What happens to residual products? (in the case of a manufacturing company)

Labor (livelihoods) - Observation and Interview

Economic-social network

Which people and companies are involved in the operation of the company? (customers, employees (formal and informal), subcontractors, suppliers, catering, local residents ..)

Why this location?

Where are they located? In which radius are the customers, suppliers, staff

Which ones come from the immediate area? How many kilometers, which municipality?

How do they move from / to the workplace?

Where and how does the company/business come into contact with them?

Contact with the neighbors: do they sometimes experience inconvenience?

What is the type of relationship that you have with the residents/customers?

Where are you going to eat in the afternoon? Amenities in the neighborhood?

Relationship with other businesses/companies in the neighborhood? Collaboration?

What opportunities does this business provide for your activities to be carried out and further expanded?

What opportunities exist in this neighborhood?

Action

Future prospects

What are your future prospects with this business?

Are there any factors that you think can hinder your future plans? mention them

What would you change to further expand your business or improve your workplace, but also the environment of your workplace (your neighborhood and society in general?)

Which collaborations can lead to a better workplace and environment?

What can the environment offer you?

What restrictions does this workplace give to your activities to be carried out and further developed?

Think of mobility, environment, space, regulations

Who would you like to share a location or workplace with? What benefits can this offer?

If you were to be moved or if the business was closed down by authorities, what will be the impact?

Catalog

Visual: Processing consists of three illustrations - past (timeline), present and future. These can be displayed on 3 pages, or on 1 poster under each other.

AUDIO/VIDEO (1min)

Present your company in one sentence. Name, activity, location.

Explain:

1 reason to stay at this location / in this space (OPPORTUNITY)

1 reason to move (LIMITATION)

Describe your ideal workplace and location. What is shared / exchanged with the immediate environment? Which new collaborations does it involve?

or

Which collaborations and exchanges can lead to your ideal workplace?

GUIDE QUESTIONS: neighborhood residents

We are doing a study on how commercial thus work spaces can exist in residential areas, specifically along streets and how they improve livelihoods.

Do you know good examples of such commercial spaces in this environment?

For example, we study the business/company and its interaction with the environment. Do you know it?

Have you ever had contact with it?

Did you see it change?

How do you benefit from the existence of the business in the neighborhood/street?

What could a company/business such as: do to positively impact the environment?

What role do you think you play for the business?

What is the nature of the street at night? Do the commercial spaces play any role towards it?

In your opinion, what do you think about commercial spaces being integrated into streets in residential neighborhoods?

GUIDE QUESTIONS (employees/informal workers)

What do you find important in your search for work? (commuting distance, security, flexible working hours, short at school, nursery, availability and affordability of services ...)

How did you get this job and why this location?

Are you formally employed? If you do not mind, what are the terms of your employment/engagement? (pay, time etc)

Are there any organizations that recognize your involvement?

How do you handle conflict with your employer or co-workers?

What are the opportunities that exist in this neighborhood/street for you?

Where and how do you get your daily needs? (food, lavatory, rest, recreation etc)?

What do you think can make your work/staying/living experience in this environment easier?

What benefits do you get from the different commercial spaces in the street/neighborhood?

In your opinion, what do you think about commercial spaces being integrated into streets in residential neighborhoods?

GUIDE QUESTIONS (companies/businesses)

What is the profile of people who your business serve? (education, culture, age)

Are they from the immediate neighborhood?

Do you advise people to start their own business?

What kind of companies/businesses would like to cooperate with this?

Are you being contacted by companies/individuals to find suitable personnel? Or to find trainees? Or for advice?

In your opinion, what do you think about commercial spaces being integrated into streets in residential neighborhoods?

SCENARIO SITE VISITS

I am Richard, a researcher for Hasselt University/ Ardhi University and I am here in the context of the research Informal Design Processes and Participation and the Role They have in sustaining livelihoods (A Case of Commercial Streets in Dar es Salaam, Tanzania). This research aims at understanding how businesses can be a resource for sustaining livelihoods through the many opportunities they offer. It also seeks to use participation in order to involve different actors in making design and planning decisions. These decisions are intended to improve policies and actors' involvements in spatial planning and design of urban streets and cities.

The result? This session aims to provide a positive story about how businesses/commercial spaces and living can be interwoven and how authorities, professionals and policy makers can learn from the co-existence. We see your company/business as an example case.

Today, together with you, I will map out how your company relates to / interacts with the (living) environment.

I will ask you a number of questions about the business, in relation to the (residential) environment. The relationship between living and commercial spaces will be central throughout the interview, and you can keep that in mind while answering. Your answers will be recorded (dictaphone) and I will illustrate them so that we get a visual report. I will draw a number of pictures of the company and the environment (where you can define which images can be made public and which are not).

In order to visualize the interweaving with the environment, I would like to ask you to think about a number of turning points in the development of this business. I will outline the various tipping moments on tickets that we chronologically confirm on a timeline. For inspiration here is a map of the spacious environment of your company.

1. Appoint moments of tilting

Can you already mention a first turning point in the development of the company?

A second?

A third?

These turnarounds may have to do with space / location / staff / contacts / network / economy / regulation / growth...

Was it difficult to find a property? How did you do it?

Do you own or rent?

How has your business expanded in the past?

Who did you involve in the process?

Which permits were required for construction changes (expansion, openings, etc.).

What was the trigger to move? (regulation, mobility, space, ...)

What was the trigger to hire people? Or to let people leave?

In what way did the mission /vision of the company/business change?

Important purchases?

Changes in network?

Changes in relation to the (living) environment?

What was the impact of that tipping moment on the environment?

Which changes / developments in relation to the environment did not happen, but could have happened?
Which do you still like to see happen in the future?

2. Tipping moments from a structural perspective

Now we are going to look again at all the turning points, and identify which structural factors have an influence on the change / development. By structural factors we mean, for example, regulations, change of partners, spatial planning, economic factors, movement from local to global company, an original product line that has remained the same or just changed, etc.

Which structural factors influenced this first tipping point?

At the second?

The third?

...

3. Tipping moments from a personal perspective

Now we will look again at all the turning points, and identify which personal factors have an influence on the change / development. By personal factors we mean the role that individuals played for the turning point, for example neighbors who complained, managers who introduced a new perspective, employees who had a certain expertise and provided a new perspective etc.

Which personal factors influenced this first tipping point?

At the second?

The third?

4. Tipping points from an accidental perspective

Now we will look again at all the turning points, and identify which accidental factors have an influence on the change / development. By accidental factors we mean factors that are independent of personal choices or structural influence, such as unfriendly policies, staggering economy, death of key personnel etc.

Which accidental factors had an influence at this first tipping point?

At the second?

The third?

...

5. Evaluation

Does this timeline clearly show how your company changed? Is there something you want to add, modify?

6. Other perspectives

We would like to include different perspectives in this research. Who are, according to you, other important players in / around this company/business?

Appendix 4B: Guide questions: Empirical Data Collection Phase – 3 (Post – road expansion)

QUALITIES AND SELF-ORGANIZED PRACTICES ALONG SHEKILANGO COMMERCIAL STREET IN DAR ES SALAAM, TANZANIA.

A joint PhD study in UHasselt, Belgium and Ardhi University, Tanzania.

Research goals

The main intention of this research is to study actors and how they interact in self-organized commercial streets on one hand. On the other hand, the study intends to analyse how self-organized commercial streets contribute towards livelihoods of urban dwellers and design and planning of streets. As livelihoods encompass capabilities, assets and activities necessary for a means of living, the study focuses on assets particularly the physical assets (buildings, spaces and infrastructure) and social assets (actors' interactions in creating space and in operationalizing it). We will investigate how the commercial street businesses contribute to livelihoods and thus the micro and macro economies through socio-economic networks amongst the various actors. The research also seeks to understand how the various actors can be more actively involved in the creation of cities by analysing their interactions.

This study will be done by Richard Besha and research assistants from Ardhi University. We will engage with tenants and property owners and inquire on the interrelations in terms of interdependencies and tensions/conflicts existing when they interact. In addition, we will study how and why dominant spaces such as the veranda and outdoor spaces come into being through interviews and observations of their uses. We will also study through observations, qualities of spaces through their inherent ability to support necessary, optional and social activities and protection of their users. Lastly, we will seek information related to best practices in terms of actors' interrelations and interactions and spatial considerations in order to inform or question spatial development policies and decisions made by authorities, users, professionals and other actors. This in turn will not only safeguard existing jobs and livelihood strategies but also ensure the formulation and implementation of policies that foster social and economic activities of urban dwellers.

Data collection methods

Observation (design anthropology and shadowing)

Interviews

Archival records

A. Mapping

Mapping previously studied plots and spaces and proposed ones.

Mapping conflict areas: parking spaces, business conflicts

B. Self-organization and interaction:

Interview questions

1. What kind of relationship do you have with fellow tenants and property owner?
2. How do you interact with them casually
3. When creating and personalizing the veranda, who did you cooperate with?
4. Were you involved in any way in decision making for the road expansion?
5. When creating the parking space before road expansion, who did you involve or cooperate with?
6. How was the parking space obtained after road expansion?
7. Why do you need the parking space?
8. Why did you need cooperation?
9. Who do you cooperate with in doing business?
10. Who are you in conflict with in doing business?
11. Who would you like to cooperate with in discussions on the nature of commercial and outdoor spaces?

Observations through shadowing, photographs and videos

1. How tenants interact with customers and neighbors.
2. How the shared spaces are used by different tenants.

C. Qualities and richness of commercial and outdoor spaces

Interview questions

1. Why did you provide the veranda?
2. Are parking spaces necessary? Why?
3. How did you design the veranda and the commercial space?
4. What was the main inspiration?
5. How do you use the shared spaces?
6. What are the benefits of shared spaces?
7. How did you achieve parking spaces prior to road expansion?
8. How do you see the parking spaces now in comparison to before the road expansion?

Observations through photographs and videos

1. Rhythm in columns, doors, windows, display details, pleasantness in viewing, smells
2. Diversity of functions, size of signs and legibility when walking,
3. New experiences in 4-5 seconds and narrow units
4. How the veranda accommodates sitting, standing or staying and protection using sketches and photos and at different times of the day.

Photographs, sketches and measurements

1. Veranda (street layout and elevations/sections)
2. Outdoor spaces

D. Livelihoods (tenants and landlords)

Interview questions

1. How long have you been doing this business?
2. How many employees do you have?
3. What are the socio-economic benefits that this business has?
4. How has this business expanded and why?

E. Data checking

1. Confirming photos to be used

2. Confirming text to be written and published if possible
3. Comparative analysis based on videos of pre and post road expansion; outdoor space/parking quality.

F. Questions to local authorities and beneficiaries/affected residents

1. What is the management structure from regional to municipal to local government to street level?
2. How were citizens involved in the road expansion?
3. How was information channeled to residents?
4. How many meetings were conducted?
5. Who did the meetings involve?
6. Were there any groups? – owners/tenants/employees/transport operators?
7. What were the main subjects of discussion in the meetings?
8. Were there any limitations in the meetings?
9. What were the main considerations w.r.t. what was existing?
10. Were there any complaints or grievances by residents?
11. How do transport operators interact with the local government (bodaboda, bajaj, and pickup trucks)?

G. Questions to residents w.r.t. Self-organization and interaction:

1. What kind of relationship do you have with fellow tenants and property owner?
2. How do you interact with them casually?
3. When creating and personalizing the veranda, who did you cooperate with?
4. Were you involved in any way in decision making for the road expansion?
5. When creating the parking space before road expansion, who did you involve or cooperate with?
6. How was the parking space obtained after the road expansion?
7. Why do you need the parking space?
8. Why did you need cooperation?
9. Who do you cooperate with in doing business?
10. Who are you in conflict with in doing business?
11. Who would you like to cooperate with in discussions on the nature of commercial and outdoor spaces?

Appendix 5: Data collection methods and respondents' profiles.

Data collection; methods, respondents and duration

Livelihoods	Design and planning	Participation and Participatory design	Self-organization
Observation/shadowing/design anthropology	Observation/measurements	Interviews	Interviews
Phase 2 (documented) <i>Recorded</i> 29/9/20 25/11/20 23/3/21 Phase 4 (documented) 26/7/22 - 1300-1600hrs 1/8/22 - 1200-1600hrs 2/8/22 - 1030-1230hrs 9/8/22 - 1300-1530hrs 15/8/22 - 1300-1500hrs 18/8/22 - 1600-1700hrs 22/8/22 - 2000-2100hrs 25/8/22 - 1500-1630hrs	Major and minor spines of 13 areas Sinza, Manzese, Msasani, Oysterbay, Mikocheni, Makongo, Yombo, Mbezi, Kariakoo, Posta, Mbagala, Keko, Kawe. 10 sites along Shekilango Rd.	2 ward leaders (Sinza) 4 street/mtaa executive officers (Sinza A, B, C & D) 1 PIU Social expert 1 Eng. TARURA 1 Consulting. Eng. 1 senior planner MLHSD	10 property owners 43 business owners 25 informal business owners 5 FGDs with bodaboda drivers
Interviews	Observations/documentation	Documentary evidence	
10 property owners 43 business owners 25 informal business owners	39 plots	3 letters to authorities Reported letters Meeting minutes	
Narratives	Video documentation		
15	Before the road expansion (2019); During road expansion (2020) and; After road expansion (2022 and 2023).		

Interview respondents' profile from 2019-2022

SN	Name	Gender	Business/activity	Designation	Employees	Years of residence/business	Location	Contact details
1	Albert	M	Wedding Lydia boutique	Manager	8		Mori	
2	James Elias	M	Oddo mini supermarket	Owner	2		Kumekucha	
3	Dada Neema	F	Convenient shop/kiosk	Owner	0		Kwa Remmy	
4	Massawe	M	Liquor store	Owner	1		Makaburini	
5	Dr. Ngowi	M	Pharmacy	Owner	3		Palestina	
6	Dada Monica	F	Ladies' Boutique	Employee	1		Makaburini	
7	Hamza A. Shalinyambo	M	Grains shop	owner	2		Makaburini	
8	Mzee Balozi	M	Sinza fast food	Manager	17		Makaburini	
9	Anonymous	F	Ladies' boutique	Employee	2		Madukani	
10	Cleopatra	F	Mobile money services/drinks	Owner	1		Kwa Remmy	
11	David	M	Graphic designer	Owner	0		Kijiweni	
12	Unanimous	M	Pemba cafe	Owner	3		Kwa Remmy	
13	Glory	M	Restaurant	Employee	5		Kijiweni	
14	Glory Asenga	F	Pine blocks supplier	owner	8		Legho	
15	Pius Asenga	M	Welding	Owner	2		Legho	
16	Marina M. Mnyeke	F	Jojo Kids Point	Owner	1		Legho	
17	Samuel Chesham	M	Barber shop	Owner	4		Africa Sana	
18	Irene	F	Cosmetics shop	Owner	1	3 years	Africa Sana	
19	Jameth Kayombo	F	Stationery	Owner	2		Africa Sana	
20	Amina Ali	F	Mobile money services	Employee	0		Bamaga	
21	Laurent Msigala	M	Phone shop and repair	Owner			Madukani	
22	Tumaini Kimambo	M	Bar	Manager	8		Africa Sana	
23	William Paul	M	Phones and accessories	Owner	1		Kwa Remmy	
24	Hassan	M	Food vendor	Owner	4		Kwa Remmy	
25	Derick	M	Barber shop			6 months	Makaburini	
26	Mama Baraka	F	Convenient shop	Owner	0		Mugabe	0652571089
27	Athuman Sanga	M	Men's clothing store	Owner			Mugabe	
28	Unanimous	M	Toto shop	Owner	4		Palestina	
29	Mamba	M	Golden fork restaurant	Manager	21		Makaburini	0652265607
30	Anna Lema	F	Wedding Solutions Boutique	Owner	3	6 years	Legho and Africa Sana	
31	Mgosi	M	Car service	Owner	4		Africa Sana	0787561407
32	Bertha Mleke	F	Online platforms, restaurant and mini store	Owner	6	3 years	Africa sana	0754260019

33	Rhoda	F	La Kazza clothing store	Owner	4		Mori	0715333389
34	Nesphory	M	Mobile money services	Owner		1.1 years	Bamaga	
35	Memi	F	Memi's bedroom solutions	Owner			Mapambano	
36	Anonymous	F	Nacharo ladies' point	Employee	1		Kumekucha	
37	Anonymous	F	Clothes and home cooking utensils	Employee	1			
38	Lilu	F	Furniture shop			4 months	Madukani	
39	Daudi	M	Truck hire	Owner	0	5 years	Kijiweni	
40	Anonymous	M	Men's fashion store	Owner	1		Kumekucha	
41	Aristedes Patrick	M	Movies and series	Owner	5	3 years	Madukani	
42	Martha Swai	F	Jeri car wash	Owner		6 years	Bamaga	
43	Zainab	F	Mobile money services	Owner	1		Mapambano	

Profile of property owners

SN	Name	Gender	Year	Location
1	Mussa Malobo	M	1985	Kijiweni
2	Kumekucha	M	1972	Kumekucha
3	Paul Kimaro	M	1992	Legho
4	Ahmed Ahmed	M	Unknown	Bamaga
5	Lumbila Manyema	M	Unknown	Kwa Remmy
6	Fortunatus	M	Unknown	Kwa Remmy
7	Mzee John	M	1976	Mori
8	Roman	M	1988	Makaburini
9	Vicent	M	1980s	Makaburini
10	Mzee Juma	M	Unknown	Bamaga

Profile of informal operators

SN	Name	Gender	Business/activity	Years of residence/business
1	Suzy	F	Clothing shop	6 months
2	Ngosha	M	Brick layer	8 months
3	Abdulijuma Janga	M	Welder	Unknown
4	Reginald Kimaro	M	Motorcycle operator	3.5 years
5	Lilian	F	Shop attendant	3 months
6	Anonymous	M	Attendant – fast food	3 years
7	Aloyce Shija	M	Waiter – restaurant	2 years
8	Nedy	F	Attendant – stationery	Unknown
9	Khalid Juma	M	Salesperson – ice cream	1.8 years
10	Mgita	M	Motorcycle operator	Unknown
11	Hassan	M	Attendant – food vending	Unknown
12	Anna Pastore	F	Food vending	3 months
13	Omary	M	Food vending	Unknown
14	Flora R. Sanya	F	Bamaga	Unknown
15	Zuberi	M	Snacks	Unknown
16	Anonymous	M	Car washing	3.5 years
17	Anonymous	M	Car washing	2 years
18	Pamela	F	Kiosk	2 years
19	Said	M	Bodaboda	3 years
20	Fatma	F	Salon attendant	1year
21	Asha Nsilee	F	Salon attendant	6 years
22	Mgosi	M	Mechanic	5 years
23	Anonymous	M	Laborer – cereal shop	4.5 years
24	Haji Salum	M	Car washing	2 years
25	Happiness	F	Kiosk	5 years

Profile of in-depth interview respondents

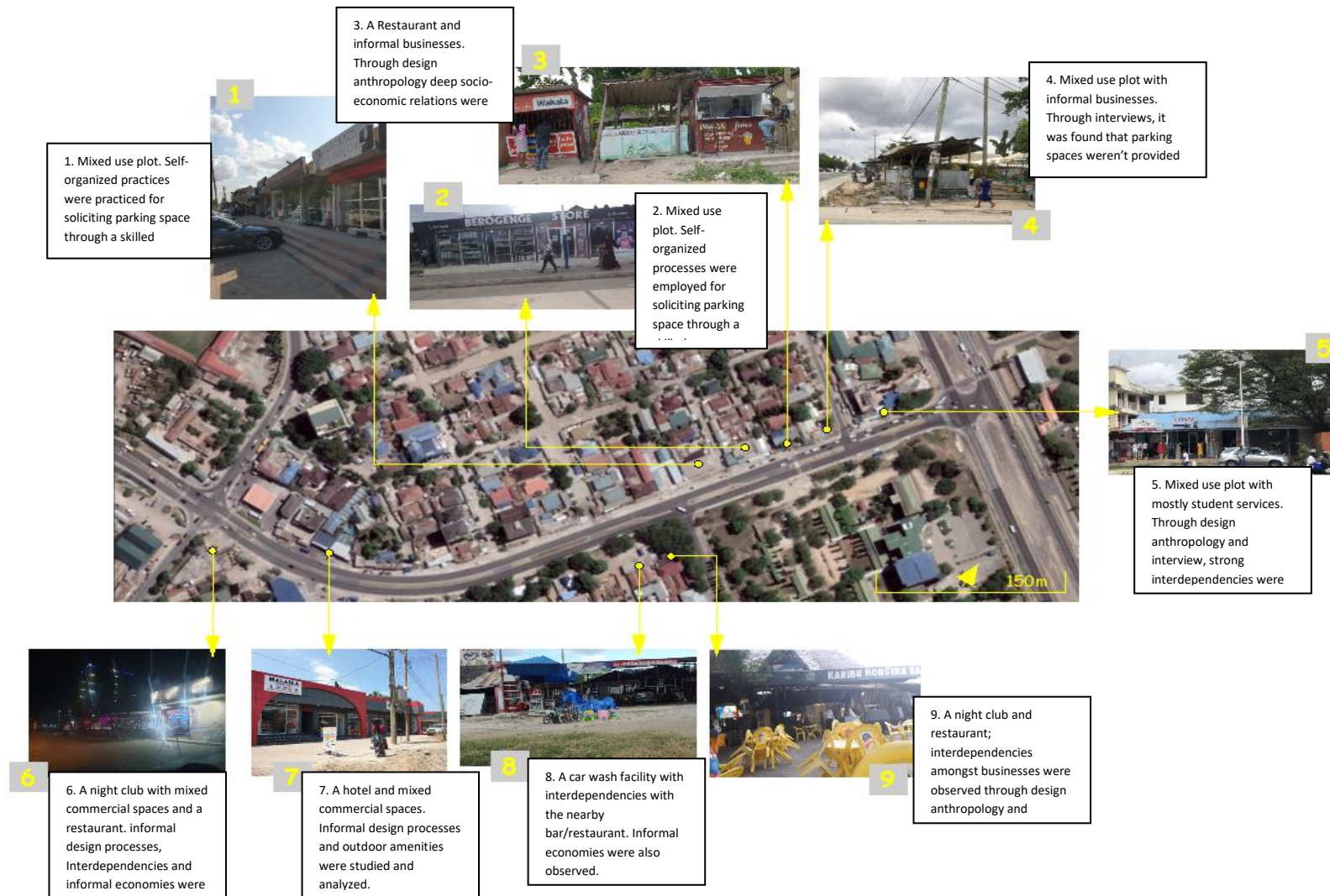
SN	Name	Gender	Designation	Organization	Interview date	Contact details
1	Qs. Sigala	M	Project manager	DMDP	06/10/2020	0715973160
2	Kimnaa Massawe	M	Senior town planner	MLHSD	12/11/2020	0767426021
3	Eng. William Mwombeki	M	Civil/structural engineer	HP Gauf in ass. with Nimeta Consult (T) Ltd	08/02/2020 27/11/2020 28/03/2023	0655265439
4	Eng. Salama Bakari	F	Civil/structural engineer	DMDP	10/12/2020	-
5	Zuwena Mtani	F	Social expert	DMPD	08/02/2020	-

6	Eric Boswell Taratibu	M	Agg. Ward secretary – Sinza	LGA - Sinza	01/10/2020	0719552265
7	Pendo Mazuguni	F	Ward secretary – sinza	LGA - Sinza	19/09/2022	0745318549
8	Muumini Herezi Shilwa	M F	Street executive secretary	LGA - Sinza D	22/09/2022	0715307574
9	Ally Mgaya	M	Street executive secretary	LGA - Sinza A	20/09/2022	0713115566
10	Fredrick Kapufi Joseph	M	Street executive secretary	LGA - Sinza C	20/09/2022	0767695755
11	Said Kaunga	M	Street executive secretary	LGA - Sinza B	23/09/2022	0719762763

Narratives

SN	Name	Gender	Narrative title	Activity	Established
1	Elizabeth	F	Lingerie Store	Undergarment store	2017
2	Dada Neema	F	Dada Neema (Sister Neema)	Kiosk/convenient store	2014
3	Dr. Ngowi	M	The Pharmacist	Pharmacy	2014
4	Anonymous	M	Zanzibar Urojo Mix	Food vending – Pemba café	2020
5	Shalinyambo	M	Tukuyu Boy	Grains shop – Raphael Group	2015
6	Mr. Jacob	M	Strictly Business	Convenient shop	2015
7	Mzee Mussa Malobo	M	Mzee wa Rukhsa (The Permission Elderly)	Property owner	1985
8	Gloria Asenga	F	The Pharmacist of Soils	Block manufacturing	2016
9	Mudi	M	Coffee already paid for	Bus conductor – Dar Lux	2017
10	Martha Swai	F	Hongera (Congratulations) : To Spaces that can Speak to Customers	Car washing – Jeri Carwash	Around 2015
11	Mabala	M	Freedom is not Given but it is Achieved	Welding workshop	Unknown
12	Salum Walter Shekuyayo	M	Mkeka Betting	Mobile money services	Unknown
13	Anonymous	M	Supu ya Pweza (Octopus soup)	Food vending - soup	2017
14	Mzee Juma	M	Residential vs Commercial	Property owner	1970s
15	Juma	M	Blown out Candle	Sugar cane juice vending	Unknown

Appendix 6: Summary of analyzed plots



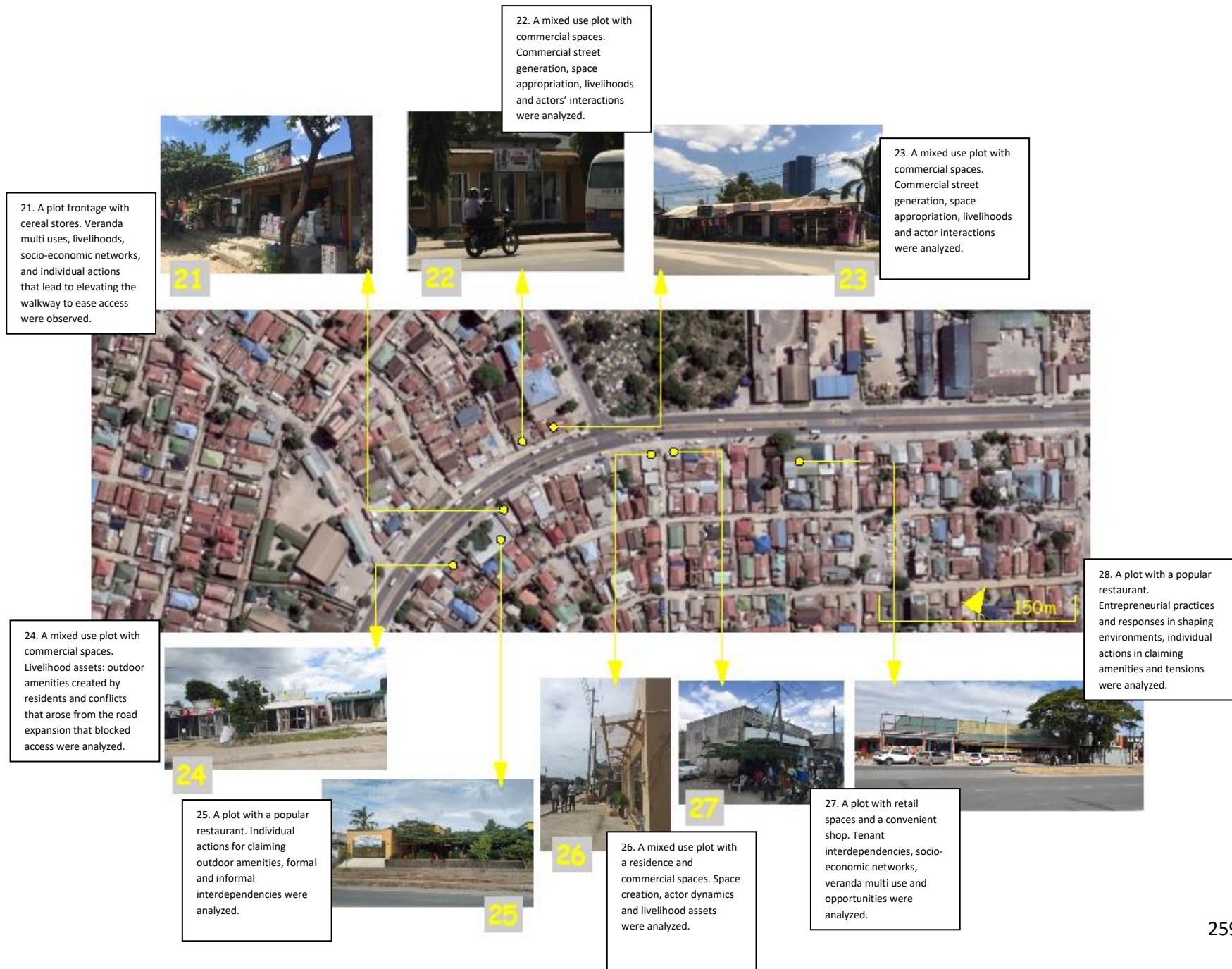


10. A mixed use plot with informal businesses. Through interviews, it was revealed that there is tension amongst tenants due to challenges in sharing of the outdoor spaces

10









29

29. A commercial plot with diverse commercial spaces. Conversion from residential to commercial space was analyzed.

30. A double-storey commercial building with diverse retail spaces, clothing stores and a movies shop. Informal and formal economies were studied.



30



31

31. A mixed use commercial building with the owner's house in the back. Space generation, informal economies were analyzed and livelihoods were observed.



32

32. A mixed use plot. Space creation and interior space appropriation were observed and analyzed. Livelihoods were observed. Tensions in the outdoor amenities were analyzed.



33

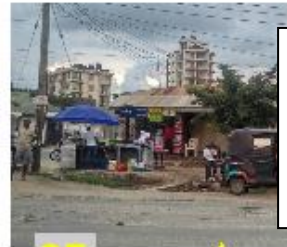
33. A mixed use plot with diverse retail spaces. Space creation and interior space appropriation were analyzed, and informal economies were observed.



34

34. A mixed use commercial plot facing a government hospital. Interviews revealed socio-economic networks, tenant interdependencies, business growth and employment.





35. A mixed use commercial plot with a convenient shop. Space appropriation, informal economies, veranda multi use, necessary, optional and social activities were analyzed.

35



36. A brick factory with strong socio-economic networks. Interdependencies were analyzed. Informal economies and livelihoods were observed.



36



37

37. A hotel transformed into commercial spaces. Space generation, tensions by introducing a bus stop, and space appropriation were analyzed.

38. A commercial frontage with retail spaces. the interview and observations revealed richness, space generation and interior space appropriation.



38



39

39. A commercial frontage with retail spaces. the interview conducted and observations revealed informal practices, rich user-created outdoor amenities and green spaces.

Appendix 7: Locations and summary of documented and undocumented conflicts



4



4. The Kwadalumpa Complex containing a hall and commercial spaces. Self-organized practices through a skilled communicator (the owner) to claim opening of the newly expanded road were analyzed.



5. A conflict on access and usage of resident created parking space whose request was not granted due to property ownership, was analyzed.



5

6. A conflict on access due to changes on the plot from a warehouse to a filling station was analyzed.



6



Mwika Hotel. A conflict on access that led to stopping the construction works, was analyzed.

7. A conflict on access and removed parking space that was resolved through individual actions was analyzed. Conflicts and tensions after the road expansion were analyzed. Livelihoods were observed.



7

8. A conflict on access and removed parking space that was resolved through self-organization was analyzed. Conflicts and tensions between outdoor spaces and reclamation of outdoor space were analyzed.



8



● analyzed plots
● mapped conflicts

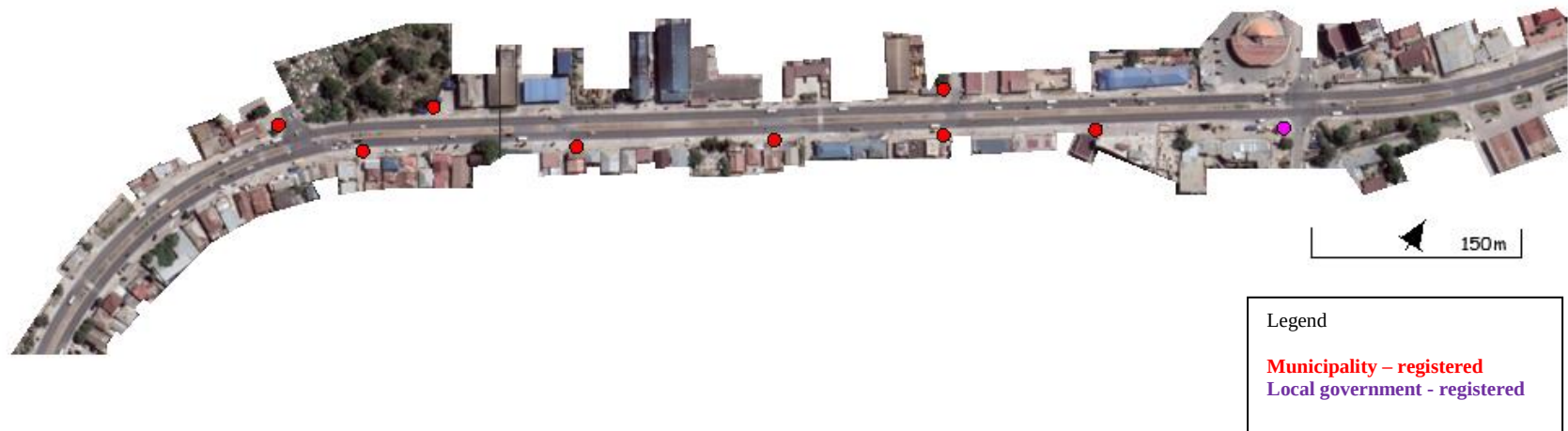


12



12. A complaint on disrupted vehicular movement after road expansion that was raised by Lake Oil filling station, Azania Hotel and Lantana Hotel (hotels that are not along the road) was analyzed. The individual actions that were based on residents' observations and customers' complaints were analyzed. Implications on participatory practices were analyzed.

Appendix 8: Mapping of private transport hire stations along a section of Shekilango road





Photos of local government –
registered, municipality –
registered and unregistered
motorcycle and tricycle stations on
the Mori – Kumekucha section.

Appendix 9: Aerial views of sections of Shekilango road showing the reduction of green covered commercial street spaces as a result of the road expansion.

Section 1



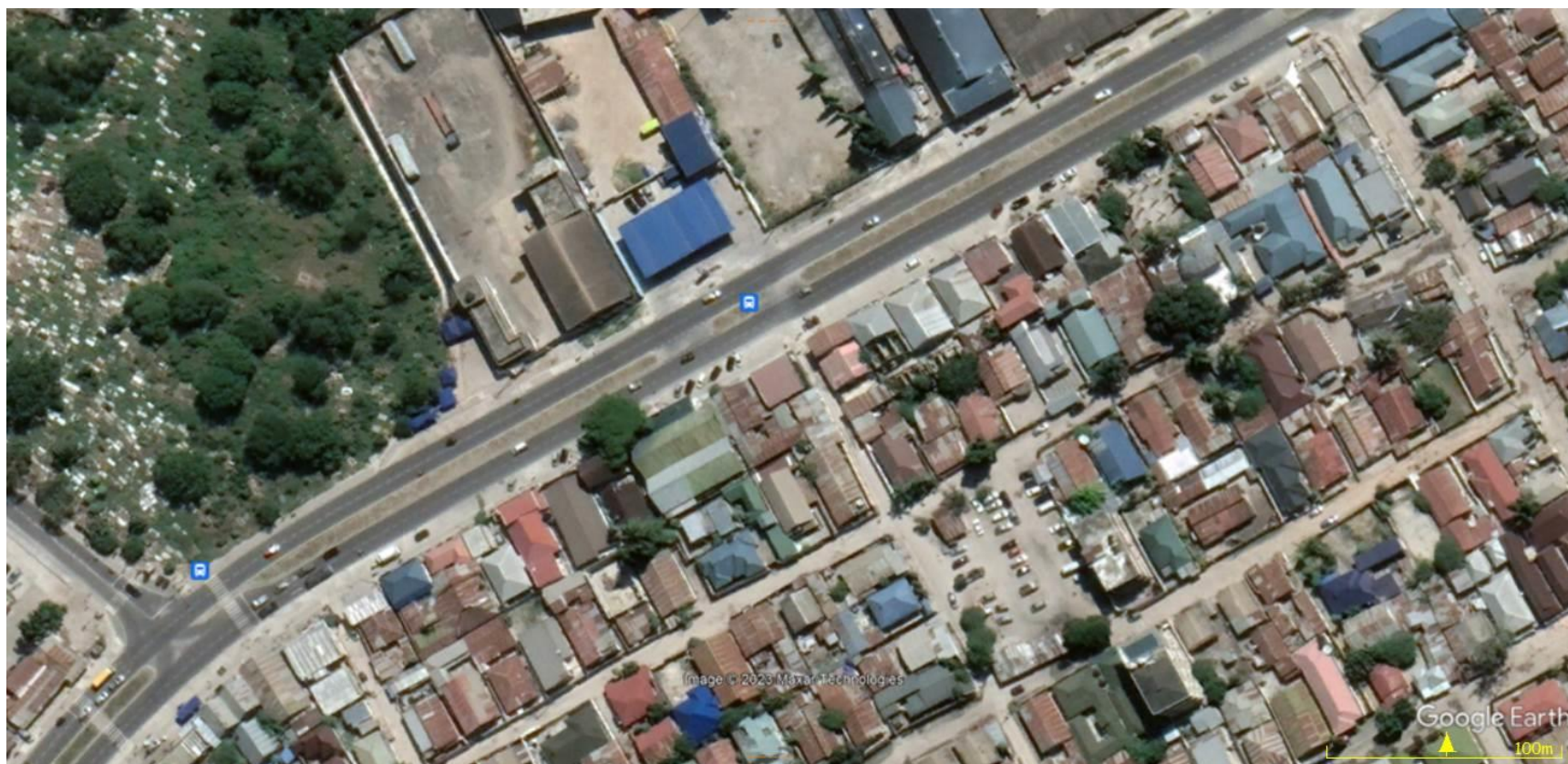
2015



2020



2021

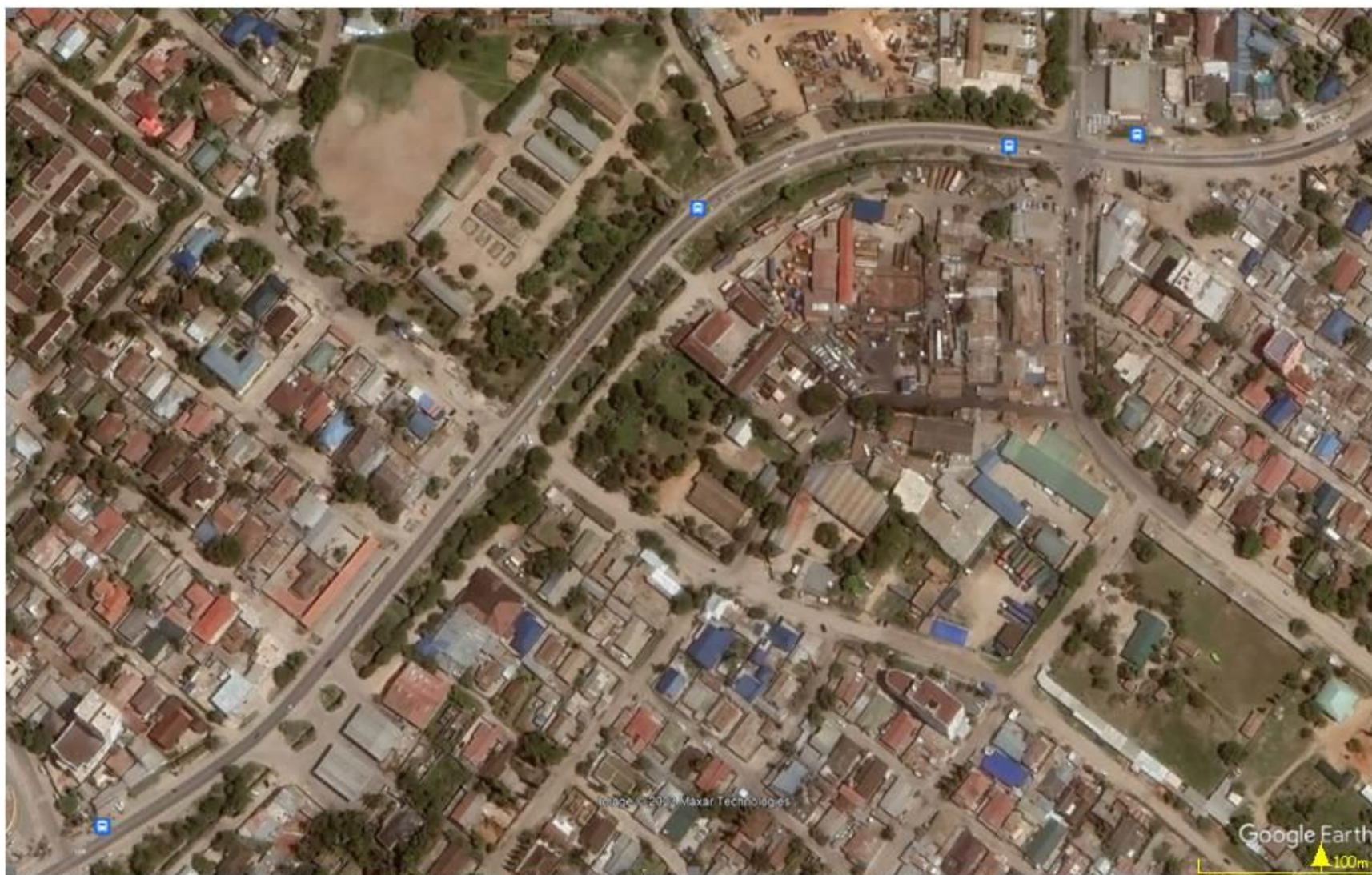


2022

Section 2



2011



2015

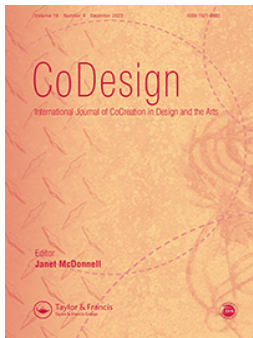


2020



2022

Appendix 10: A Published Paper Titled: Co-Designing with Scarcity in Self- Organised Urban Environments: A Case of Shekilango Commercial Street in Sinza, Dar Es Salaam – Tanzania.



Co-designing with scarcity in self-organised urban environments: a case of Shekilango commercial street in Sinza, Dar es Salaam – Tanzania

Richard Besha, Liesbeth Huybrechts & Wilbard Kombe

To cite this article: Richard Besha, Liesbeth Huybrechts & Wilbard Kombe (31 Jul 2024): Co-designing with scarcity in self-organised urban environments: a case of Shekilango commercial street in Sinza, Dar es Salaam – Tanzania, CoDesign, DOI: [10.1080/15710882.2024.2377976](https://doi.org/10.1080/15710882.2024.2377976)

To link to this article: <https://doi.org/10.1080/15710882.2024.2377976>



Published online: 31 Jul 2024.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



Co-designing with scarcity in self-organised urban environments: a case of Shekilango commercial street in Sinza, Dar es Salaam – Tanzania

Richard Besha^a, Liesbeth Huybrechts^{id}^b and Wilbard Kombe^c

^aDepartment of Architecture, Ardhi University, Dar es Salaam, Tanzania; ^bFaculty of Architecture and Arts, Hasselt University, Hasselt, Belgium; ^cInstitute of Housing and Human Settlements, Ardhi University, Dar es Salaam, Tanzania

ABSTRACT

This article reflects on how co-design processes in self-organised planned neighbourhoods can benefit from taking more consciously into account different views on defining and designing with scarcity. In a four year PhD study on self-organised design processes in spatial planning of commercial streets, it was observed that scarcity is often defined as a condition defined by an insufficiency of resources. This limited view leads to unidirectional urban planning processes, insufficiently responding to very diverse experiences of scarcity in African cities. The PhD study developed a design anthropological approach by engaging in daily co-working interactions with plot owners and tenants to enable a deeper understanding of their everyday urban realities and thus what is scarce. Differently from some reported co-design trajectories with organisations and authorities in western contexts, residents often do not have the means or time to engage in intensive participatory design trajectories. Therefore, we see a need for more attention for co-designing methods and tools that tap into the social and physical assets and related experiences of scarcity already present in daily life. Such methods and tools can be flexibly employed by the vast actors in their self-organised planning processes in urban Africa where scarcity is a major concern.

ARTICLE HISTORY

Received 3 August 2023
Accepted 2 July 2024

KEYWORDS

Self-organisation; co-design;
participatory design;
commercial street; scarcity;
livelihood assets

1. Introduction

This paper is a plea for more carefully understanding experiences of scarcity, instead of ‘solving’ them in co-design processes. This paper argues that a more diverse understanding of co-designing with and for scarcity as produced by diverse actors, enables to better shape a co-design approach that serves sharing of power between these different actors in urban planning processes in African contexts. We argue that collaborative design processes require a negotiation on diverse ways of dealing with scarcity (Huybrechts, Benesch, and Geib 2017).

The need to study co-designing with and for scarcity, emerges from our work in the global south where urban informality is paramount, and where it is often everyday actors’

social assets that lead to co-design of spatial value and co-shaping urban realities (Chien 2017) more than governmental institutions. Since forms of participation intersect in many directions in such contexts, in diverse spatial and timescales, during a four-year PhD trajectory on self-organised spatial planning of commercial streets in Africa, we investigated these dynamics between more institution-driven participation processes and self-organised participatory processes (Saad-Sulonen et al. 2018). The first is mainly led or initiated by institutions (mostly public governments and NGOs) (Huybrechts, Benesch, and Geib 2017) and the latter driven by local actors such as residents, businesses, non-for-profit organisations in key decision making through collective and collaborative action (Van Meerkerk, Boonstra, and Edelenbos 2013).

To develop this reflection, this paper builds on an in-depth case study of a popular commercial street in Sinza, Dar es Salaam, that was subject of a road expansion initiated by the authorities. It insufficiently tapped into the rich 45-year-old self-organised planning experience of the residents. The movement of cars and pedestrians was prioritised at the expense of self-organised initiatives, based on different experiences of scarcity. The paper will explore how, over a period of time, both institutionally planned and self-organised urban environments, in their daily approaches to scarcity, can benefit some human and more-than-human actors, but also overrule others. It has analysed how interventions by both institutions and everyday actors can rebalance these power relations. In our final discussion, we will make some suggestions on how co-designing with scarcity can more carefully tap into social assets of everyday actors, while taking into account the politics of decision-making in participation in African cities.

2. Key concepts: scarcity in self-organised participatory design

The study context of this research that urged us to take scarcity seriously as a concept in co-design, are African cities. Simone (2010) argues that African cities are often analysed as cities that 'lack' something, and that have deficiencies. This understanding results from the fact that government-driven spatial developments, despite their good intentions, fall short in understanding and overcoming scarcity in self-organised urban environments mostly triggered by livelihood needs. To set up co-design processes, there is thus a challenge – as Simone (2010) argues – to not define the cities based on a narrow interpretation of scarcity, but rather investigate the abundant experience in the people, institutions, built environment and social practices that collaboratively design liveable environments with scarcity.

2.1. Co-design of and with scarcity

According to Iossifova (2013), scarcity is defined by an insufficiency of resources that people can flourish in. When defining a dialectic pair of scarcity and abundance, Iossifova criticises that it might be implied that scarcity must be hidden or vanquished to obtain abundance. Iossifova further stresses that scarcity is regionally differentiated encompassing cultural, social and economic conditions. What appears scarce in one community may be abundant in another. Abundance is defined as a condition in which a resource is considered infinitely available in a given system. In our studied contexts, this could be the vast availability of physical and social resources creatively put in place by

residents. Scarcity, in this sense may not necessarily be a lacking condition that requires interventions, instead, it is something to work with rather than that to escape from in order to relate it actively to what is already considered abundant.

Co-design or Participatory Design (PD) aims for a collaborative decision-making process in which diverse actors' values are incorporated in the design and outcome in which the traditional tension between what is and what could be tackled by discussing future use and future alternatives (Van der Velden and Mortberg 2014). According to Bratteteig and Wagner (2014), PD needs to expand beyond organising the design process and working as a multidisciplinary team. Rather, these approaches should address the most difficult aspect; acknowledging actors' equally different and valuable experiences. Bratteteig and Wagner (2014) argue that 'making' in PD is a process which is not straightforward and involves creating choices, selecting among them, concretising choices, evaluating the choices and the design result, and this in an iterative process until the desired results are met. This process requires openness towards participation of diverse actors in which multiplicity of options are explored collaboratively to reach decisions. This enables an understanding and practicing of PD with attention to its politics, which has been argued for in a previous edition of this Co-design journal (Huybrechts and Teli 2020).

Designing with different experiences of scarcity addresses politics and can relate to both material and more immaterial aspects of scarcity, such as time. Iossifova (2013) argues that the idea is working with what one has; making more out of less by reducing the use of resources and working with what is already there rather than adding more. To make such an approach sufficient, Till (2009) argues that one has to listen and be fully alert to understand the productive value of design with scarcity. He underlines that scarcity enables us as designers to think beyond the object, beyond adding stuff and endless growth. Next to scarcity in relation to 'stuff', Co-design scholars have also reported on scarcity of time as a hindrance for reaching the goals of mutual learning in co-design. Further, a tension between reaching a certain sensitivity, depth and degree of participation, and time efficient research is also reported (Kraff and Jernsand 2023; Polk 2015). Singh et al. (2023) and Jagtap (2022) discuss many barriers of doing co-design in contexts dealing with scarcity, such as a lack of co-design skills, resources, trust (often because of previous bad experiences of communities with different agencies), literacy, gender, connection between project-aims and needs and time.

According to Winschiers-Theophilus et al. (2010), an underlying misconception of PD and participant roles lead to disregarding the local values and underestimating the context's complexity, such as the pluriversal experiences of scarcity. In an effort to modernise the contexts in which people live in the name of continuous progress (Tsing 2017) – instead of closely looking at the infrastructure and enhancing what exists – authorities and professionals disrupt the spontaneous settings and affect urban environments. In line with Vázquez (2012), we aim to investigate how to approach modernity from a decolonial perspective, moving away from anthropocentrism that places humans above the Earth, and Eurocentrism that centres the West in the now of history and here of geography. Therefore, in contexts of scarcity, Jagtap (2022) urges that co-design enables people to contribute towards design activities and impact decisions to avoid only the perceptions (of scarcity) by a few prioritised actors. The collaborative aspects of the process and related outcomes can enhance the acceptance and adoption of co-

designed propositions. Jagtap (2022) indicates that the most novel approaches to co-design with scarcity involve those that focus on generating value through interaction *between* resource-constrained people. Therefore, future research can gain deeper understanding of how resource-constrained people co-create value through various interactions within *their own* community and in that way inform practitioners such as researchers, companies and NGOs in their co-design processes.

2.2. Self-organised co-design processes and scarcity

In response to the above conclusion, we would like to investigate how we can start from the self-organised practices of residents and their self-organised ways of communicating this with each other and policy to come to another perspective of scarcity. Gielen and Lijster (2017) and Van Meerkerk et al. (2013) define self-organisation as a result of citizen's intuitive actions that result from discomfort, irritation or fear and the emergence of governance structures that involve local stakeholders such as residents, businesses, non-for-profit organisations in key decision making through collaborative action. Owens (2014) reiterates that urban space provided by African states does not always take into account such dynamics. According to Edjabe and Pieterse (2011), cities such as Johannesburg, Lagos and Kinshasa, which follow top-bottom spatial development approaches that aim at serving the elite, pose questions on the relevant model and benchmark for Africa. Winschiers-Theophilus et al. (2010) urges that authorities approach PD in planning from the already present traditions instead of projecting western practices. Therefore it is relevant to study self-organised practices in urban environments and to investigate approaches that enable to capture such practices and bring them into dialogue with governmental practices. Our research shows that there are local initiatives developed by residents as creative ways to relate to what is scarce in their physical environment for their livelihood activities. Figure 1 shows that these often differ from what the state conceives as scarce.

The residents deal with scarcity on a daily basis through social networks they build over time. They create an environment with capabilities, material (infrastructure and environment) and social resources (a network of actors of mutual support) as livelihood assets which through diverse activities, become a means of living (Chambers and Conway 1992). As such, we have observed particularly these social assets of the community:

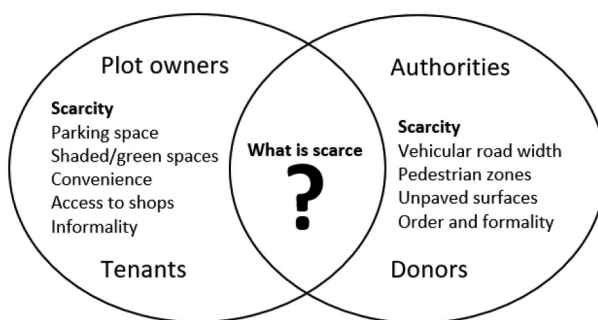


Figure 1. Scarcity as defined by residents and authorities.

activities such as obtaining information, mobilising and making demands for rights and services to the state take place. These aspects that residents self-organise to retain are livelihood assets (defined by DfID 1999; Moser 1998) that PD processes should integrate in urban developments.

Engaging with these social assets informs future co-design approaches. For instance, the networks built over time and the urban environment put into place can be a basis for formulating tools for actors' interaction and interventions to the already built environment. In addressing future practices for overcoming water scarcity, Varma et al. (2021) lay out processes by proposing mind maps, group sketching, storytelling and brainstorming sessions for participants to openly share their ideas. However, as Jagtap (2022) underlines, when lacking resources, some methods such as prototypes or pictographic media can become challenging. Therefore, investigating alternative ways of using assets of a community become more important. However, making use of these assets may require compensation for the time and effort these people invest in co-design activities. Also, the authors indicate that in such contexts, concrete examples and explanations (rather than abstract discussions) provided through co-design activities are more effective. This concreteness is supported by social embeddedness, using local language, experience, training and feedback.

Jagtap (2022) expresses a great need for studies that reveal how actors have been involved in such contexts and from which 'source' they are involved, being it as researchers, NGOs, local or multinational enterprises, because their knowledge, capabilities, networks, and intentions in co-design differ. For example, as is the case in this particular research, co-design sessions initiated by researchers are typically aimed at addressing some academic objectives. Also, the articulation of what is expected from and how people involved evaluated the co-design outcomes are stressed as being important in this type of co-design research (Jagtap 2022). This is what we aim to achieve by sharing our study.

3. Study context

This article focuses particularly on the sustainable co-design of commercial streets in Tanzania. According to Kironde (2006), a regulatory framework is a vital tool for controlling the quality of spatial development, such as for instance its contribution to livable and sustainable development. However, it should remain in dialogue with self-organised developments since land use control measures in such contexts remain mainly controlling, outdated, inflexible, rigid and reactive (Majale 2002; Mwiga 2011). However, this dialogue is challenged with a lack of financial means and a spread out context. As a result, the set-up of institution-driven planning processes are rare. In addition to that, when these institution-driven planning processes are started up, according to Layson and Nankai (2015), not only are community involvement guidelines unclear, their emphasis is mainly on public hearing and consultation that demand little time and means, leaving out the inhabitants (who plan their environment) in decision making.

In response, this research aims to illuminate the contributions of the very vivid self-organised participatory planning practices to spatial planning. The self-organised, non-conform implementations of rules stipulated in the regulatory framework are a response to the rigidity of land use control that might not address the immediate needs of urban

dwellers (Kironde 2015). The alternative self-organised initiatives create settlements that reflect people's needs, social processes in the production of space, social values and lived experiences (Benson and Hamiduddin 2017). Therefore, this research articulates a need for institutional and self-organised activities to interact with a mode of planning with a more varied and inclusive decision-making process that scrutinises relevant and irrelevant regulations (Gehl 2010).

Based on the studies in urban Africa, one of the steps towards doing so is acknowledging the various actors and the roles they play in urban development (Edjabe and Pieterse 2011). Instead of using this knowledge to manage these actors or providing them with technical answers, their relational qualities and their interdependencies can be understood and mobilised (Huybrechts, Devisch, and Tassinari 2022). To enable these insights and building upon the plea by Jagtap (2022) for in-depth accounts of co-design cases, this research uses a case-study approach. Significant generalisations can result from a single case since they can be explanatory, exploratory and descriptive (Yin 2014).

The study focuses on Shekilango Road; a popular commercial street in Sinza, Dar es Salaam. Carriageway widths on the surfaced roads were to be kept at a minimum for future widening (Transport and Urban Projects Department 1974). Over time, livelihood pressures, rapid urbanisation and minimal care for the road were a trigger for local initiatives to overcome scarcity of urban space and parking. The street had to play an urban recreational role as formerly provided open spaces were gradually encroached due to abandonment (Vedasto and Mrema 2013). Local businesses and plot owners needed more parking space, shaded spaces for sitting and convenience for their customers. Over time, these scarcities were overcome through self-organisation.

Later, authorities and donors planned to expand roads with an agenda on scarcity. Qualitative mobility was their perceived major scarcity to tackle. This led to road expansion, introduction of pedestrian zones and more paved surfaces, affecting the self-organised qualities already put in place.

4. Methodology

The case study research was framed in an academic PhD research by a Tanzanian researcher and architect with the help of 21 research assistance between September 2019 and September 2022 as a co-design process shaped as a design anthropological approach. This approach has historically been used by researchers and practitioners to explore the political dimension of daily life contexts by representing the diversity of voices through design. It grew from the seventies to support a phenomenological design model from how people engage with the everyday world rather than discussing it from a utilitarian spatial order from above. It foregrounded the reflection on the practice of design as equal to its objects and products and addressed a transitional future by negotiating the relationship between the past, the present and the future (Gunn, Otto, and Smith 2013). We embraced design anthropology's quality of using a projective design language to unveil spatial potential and quality of a specific situation in a tangible way for a multidisciplinary group of people to reflect on (Hunt 2011). We employed in-depth interviews, photo ethnographic observations in combination with design-based methods such as cartographic visualisation (de Weijer, Cleempoel, and Heynen 2014). The design-based

methods supported us to enhance participation of the different actors in collaboratively visualising, reflecting and taking action on the different design steps in the process.

The design anthropological approach which enabled a deeper understanding of the case study, involved the researchers getting engaged as shop workers, customers and passers-by prior to, during and after the expansion. Through engaging with and observing how the respondents interacted with neighbours, customers and authorities, a deeper understanding of the social assets was obtained, necessary for supporting self-organised practices. Interviews with authorities and residents were conducted for understanding power relations in the production of space. In response to the demands of co-design approaches in contexts with a lack of resources, we rewarded the time dedicated by the participants in the context, by co-working in their shops, supporting their everyday activities, while observing, interviewing and mapping.

A total of 39 commercial plots within the Sinza Shekilango road were studied in which key actors: 10 owners, 43 tenants and 25 informal business operators were interviewed in Swahili language. The researchers also mapped conflicts that arose from the authority driven approach. Measurements and photographs of spatial elements and ongoing activities around and within the plot were taken. Interviews were conducted with officials from the local government, and the Ministry of Lands, Housing and Human Settlements Development (MLHHSD), consultants of the road expansion and agencies that oversee urban and rural road development.

5. Field observations

Here we discuss co-design initiatives, key actors and their capabilities and PD opportunities and gaps that were observed in the interaction amongst actors and the self-organised environment that is generated. We will structure this analysis, using Bratteteig and Wagner's (2014) scheme of creating choices, selecting among them, concretising choices, evaluating the choices and the design result.

5.1. Creating and selection of choices: the conception of the co-design process

The typical plot development depicts spatial development patterns for solving residents' livelihoods needs. For over forty years, residents gradually created spaces while authorities gave a blind eye. What was scarce was obtained through self-organised initiatives. In the process, rental houses, commercial spaces, green outdoor public spaces and parking spaces were creatively achieved. In this particular context, we have found out that scarcity (that which lacks) is self-answered in the form of physical (e.g. sitting space under the trees for shade) and non-physical resources (e.g. networks of self-builders /designers).

5.1.1. Overcoming scarcity and safeguarding abundance through self-organisation

A plot owner started construction of his house in the 1970s and shifted from business to business until 2000's. According to the owner, the dominance of boutique spaces in the area that developed because of a lack of shops for the growing housing development in the environment, necessitated adapting the same type of development on his plot.

We must also understand how abundance stimulated self-organised initiatives. There is an enormous richness in terms of shop display qualities, covered public meeting spaces (verandas) and co-created outdoor amenities such as parking spaces and of useful interrelations amongst tenants/plot owners who on a daily basis co-design their environment as shown in [Figure 2](#).

Thus, what appeared scarce in the form of rental houses and retail spaces, green spaces, outdoor spaces, public and private parking spaces (Figure 3) due to limited state involvement, began to slowly take shape. Residents already achieved spaces that authorities could have tapped into.

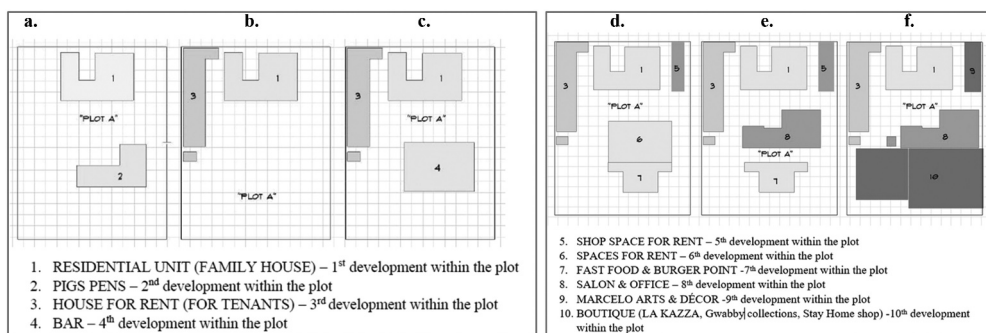


Figure 2. Owner and tenant – plot co-design process from mid-1970s to date.

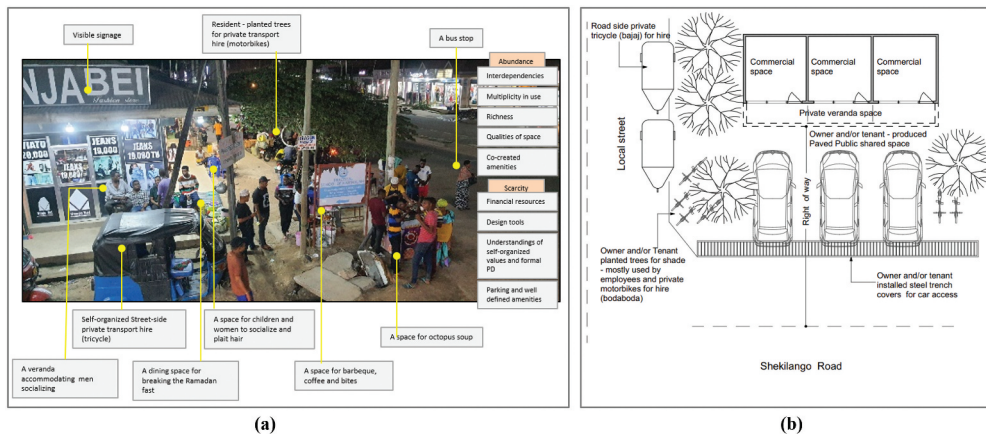


Figure 3. (a) A self-organised environment displaying abundance and scarcity and; (b) Self-organised and co-created amenities that reflect abundance. (Source: Besha 2023).

5.1.2. *Networks, collaborative dynamics and institution-influenced limitations*

The main actors who co-designed the road, are active in local collaborative dynamics through design and construction-supervision arrangements amongst the owner, tenant and professionals (architects, planners, constructors). Some spaces are mainly designed by the owner and co-designed by a professional; others are professional-designed and co-designed by the same or other professionals; again, others are solely owner-designed and some are co-designed by a combination of the three actors. In some cases, the government is involved, or as co-designer with the owners, tenants and professionals.

We provide an account of how owners and tenants work together.

Under-provision of amenities necessitates co-designing the street by owners and tenants to overcome this scarcity. A respondent who is a tenant and a clothing boutique owner in the Sinza Mori area, had a 14-year lease agreement with the plot owner. She was given full responsibility to oversee design and construction of a retail space that could support her business. This sharing of responsibility gives tenants autonomy in the developments and unburdens the owners. This co-designing process is possible as building permits are seldom used. State-driven interventions often neglect these informal contributions in creating thriving commercial streets, that they are not supporting because of lack of people and means to follow up.

After a while, also governmental actors started to act in these co-design processes.

In an interview, the Kinondoni Municipal council project manager explained how the donor; the World Bank had prioritised mobility through Dar es Salaam's neighbourhoods, because they conceived mobility as the most important 'scarcity', the limits of vehicles moving quickly from one place to another. Alongside mobility, streets were to be modernised by making them tarmacked and paved, conceived from a genuine concern with accessibility for pedestrians.

From interviews and observations, it became clear that from the institution-driven intervention, even though the road expansion was necessary as it connected two trunk roads and improved mobility, it diminished the self-organised public outdoor spaces and vegetation features and created 'grey' modernistic urban spaces as shown in Figures 4 and 7. The

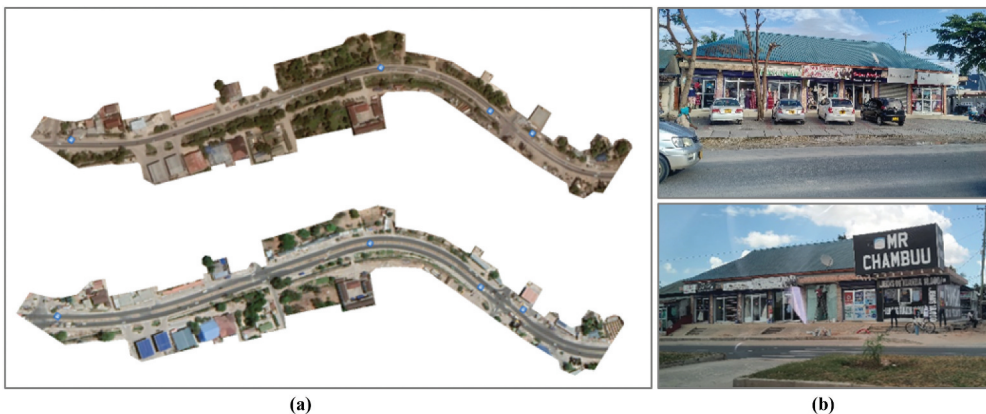


Figure 4. (a) A section of Shekilango Road in 2015 prior to the road expansion and in 2022 after the expansion and; (b) Resident-self-organised parking and outdoor spaces in 2019 and the government influenced design in 2022. Source: (Google Earth²⁰²³ and Besha ^{2019, 2022}).

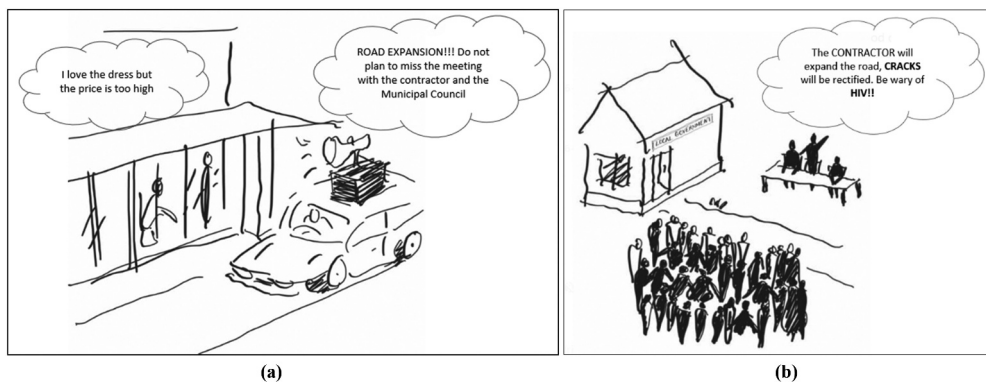


Figure 5. (a) a typical announcement to residents and (b) The nature of meetings at local government offices.

expansion posed threats to co-designed livelihoods, such as sociable public outdoor spaces and green zones. We noted that after the state and donor-driven road expansion, residents have experienced scarcity of shaded spaces provided by trees. Newly installed curb stones for demarcating pedestrian walkways, blocked access to shops by cars and disrupted the spontaneous parking system that existed prior to upgrading. Residents' improvisations in the form of encroachments have disrupted mobility thereby affecting movement of both abled and vulnerable groups. This is a state and donor-influenced limitation that resulted from one-sidedly interpreting what is scarce along the street. Those responsible for planning urban space did not investigate a good balance between diverse conceptions of scarcity, such as the *vehicular movement* and a *supportive built environment for human and more-than-human actors in the commercial street*.

According to the local government leaders, after announcements using loudspeakers on moving vehicles, inhabitants were informed of the upgrading scheme of the road in 8 (eight) meetings. Dar es Salaam Metropolitan Development Program (DMDP) and social experts of the contractor and Municipal Council representatives attended the meetings. The main agenda of the meetings captured in Figure 5, was to introduce the project to inhabitants. Interviews revealed that residents were neither shown the drawings nor given details of the upgrading scheme during the meetings. Archival records of minutes of one of the meetings revealed that residents saw it necessary to see the proposal before its implementation so they could give their inputs.

5.2. Concretising choices: during the roadworks

The scarcity the residents now perceived in meeting space and parking space, led to self-organised removal of newly installed curb stones, redesigning and rebuilding of the road and walkways. Quickly, the curb stones and raised walkways began to be encroached by verandas and vehicles, due to reduced parking space, posing mobility challenges for pedestrians and vehicles as movement became considerably disrupted. Figure 6 shows a pedestrian path taken over by a shop like they used to be before, blocking it for people passing through.



Figure 6. Residents occupy and block a newly installed paved and raised walkway while a pedestrian walks on the tarmacked road. (Source: Besha 2023).



Figure 7. (a) Self-organised spaces with a space for human and non-human actors in 2019 and (b) a “grey” donor driven intervention in 2021. (Source: Besha 2019, 2021).

Residents have strong informally created networks for discussing mutual interests, problems and strategies. For instance, according to entrepreneur 1, and entrepreneur 2, there exists no formal organisation for residents. However, they may meet informally through social media or via phone conversations to discuss matters of concern.

When only a bus stop was provided in front of their commercial spaces, these respondents organised themselves through entrepreneur 2 as a skilled communicator. A letter and confrontation with authorities led to provision of a new parking space. Participant 3, a truck driver at the Kijiweni area and participant 4, a tenant and owner of Kids Fashion empire, also wrote to authorities to negotiate on parking space. According to the respondents, the process was not a straightforward formal procedure but it worked. Thus individual owners having the capacity to effect change and willingness by authorities to act in favour of residents suggest that earlier co-design sessions prior to reaching decisions can bring similar results.

5.3. Evaluating the choices: after the roadworks

According to the representative of the consultant of the Shekilango road upgrading scheme, architects, sociologists and citizens were not involved prior to approving the drawings. In some of the proposals, improvements to the designs were in the form of afterthoughts as there was not enough analysis of the already self-organised initiatives and everyday life of the residents.

Without formal participatory processes, consultants and the road agencies adjusted the scheme to the existing situation to meet the needs of the residents. This is what is termed ‘participatory result’ (Bratteteig and Wagner 2014). A more conscious set-up of a co-design process, taking into account the self-organised co-design dynamics around scarcity from the start could have more carefully ensured the inclusion of values, needs and requirements of each actor.

From Figure 8, we can read that information is transferred from the municipal council to inhabitants through agencies and the local government in which residents are merely receivers. During the design stage, the municipality, agencies and the consultant/contractor are involved and produce design proposals. During implementation, inhabitants (through local government-formed committees) spontaneously interact with the consultant and the contractor to solve conflicts. After the expansion, inhabitants interact with the local government before meeting with road agencies for conflict mediation. According to the local government, each month, two meetings are to be held but are seldom held due to financial scarcity. This makes it difficult to carry out conventional participatory meetings in such a context and calls for a careful addressing of what is scarce from both the perspective of the residents and of the responsible governments needing to carry out the co-design processes.

According to the consultant of the project, HP – Gauff in association with NIMETA Consult (T) LTD, the planning scheme that they had imagined for the street had to become flexible as they (engineers only), didn’t consider many dimensions into the project including accessibility, the importance of public outdoor space or parking space. The process of intervening by the residents was a result of participatory work

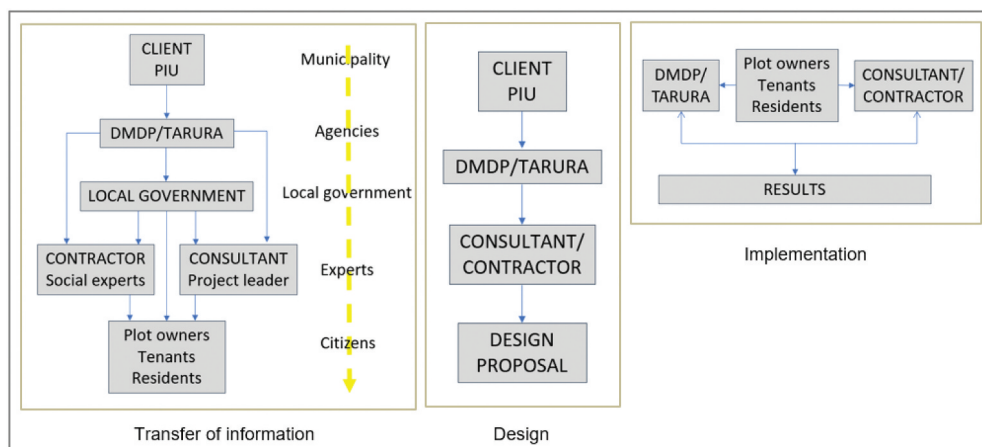


Figure 8. Actor interactions.

they self-organised through their networks as a reaction to the state and donor-influenced design proposals which had other scarcity assumptions of the built environment.

6. Discussion: towards alternative co-design approaches

No matter how good the intention, donors and authorities miss their aim when what they perceive as scarce for residents is not placed in relation with the scarcity residents experience in urban realities. However, residents' contributions geared towards addressing what is – according to them – scarce in their livelihood activities should also not be romanticised. Our observations on residents' claiming of parking spaces after the expansion, at the expense of, and encroaching shaded public and pedestrian spaces, further diminished the space for more vulnerable and human and more-than-human actors. Prioritising vehicles over pedestrians and public space, pays too little regard to sustainable use of space for all actors; human and non-human.

Therefore, co-design approaches inspired by self-organised practices should be explored while addressing the politics of participation. Power relations between actors need to be given due consideration both in institution and everyday co-design activities. When authorities' and donors' power is downplayed to pave way for timely negotiations with residents on spatial development, more delicate interventions (Figure 9) that fill in the gaps left with self-organised processes for overcoming scarcity, can be enabled. Also, in a well self-organised environment, co-design can contribute to ensuring more democratic processes that pay attention to qualitative public and open space, by connecting the self-organised experiences of actors to the needs of more-than-human actors.

Alternative co-design approaches should thus be created to more consciously deal with scarcity in planning practice. On the one hand, professionals can tap into the social assets of residents (Jagtap 2022) who have the capacity to self-implement design proposals in order to understand the potentials they have created over time and thus what is at stake prior to reaching design decisions. On the other hand, providing the tools, methods and capabilities to actors on-site for understanding the politics of space can enhance the quality of co-design processes in environments that deal with scarcity. While most participatory methods and tools are oriented at enabling a close dialogue between

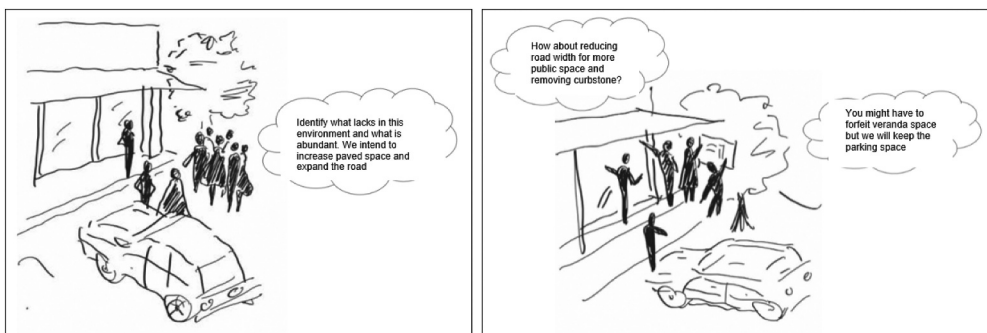


Figure 9. Possible onsite participatory scenarios to identify scarce resources, designing and testing proposals and negotiating on the results.

institutional actors and professionals with residents, we see a great need for methods and tools that can motivate and support residents – as initiators of most urban planning (co-) design processes – to use their social assets to initiate a closer dialogue with authorities. This could enable a more thought-through planning process in favour of businesses, proper housing, public space and transport that supports different types of people, nature elements and animals. With the help of methods and tools that nurture social assets, informed by professional spatial standards, residents can be assisted to avoid challenges such as ventilation and lighting.

In this particular case context, given the busyness of tenants and landowners due to the nature of livelihood activities, having participants engaged in processes through methods such as storytelling and group sketching (Varma et al. 2021), can be time consuming and may not address deeply enough their assets on the ground. Our approach – co-designing while co-working with shop-owners, tenants and their clients experiencing their environment was a case example of a method that can be used to not only capture inhabitants' assets and lifeworlds, but also to give some time back to the participants who already live and work with scarce means and time.

7. Conclusion

This paper has contributed to existing co-design discourse by deepening and expanding the notion of 'co-designing with scarcity', since a unidirectional understanding of designing for scarcity has led to misinterpretations on how we should design for and with African cities. The design anthropological approach has enabled a deep understanding of everyday urban realities and how residents self-organised themselves to overcome scarcity and reach desired results. This self-organised way of dealing with scarcity was answered by a rigid state and donor driven proposal that offered a unidirectional answer to a unidirectional understanding of scarcity. This, over time, was answered by self-organised resident driven interventions meant for achieving results that were in line with their livelihood needs and a more pluriversal understanding of scarcity.

The findings in this paper suggest that when authorities and professionals are dealing with self-organised urban environments, the PD approach should start from, tap into and further elaborate on self-organised co-design processes, leading to more pluriverse understandings and practices of co-designing with scarcity. This can be done by studying the everyday ways of designing, building and occupying the spaces and the knowledge on the vast actors involved. This – as this study wanted to contribute to – can be a starting point towards formulating approaches, methods and tools that support residents' actions and contributions. As discussed by Theophilus et al. (2010), PD should start from the traditions that are already present to provide ways for starting a dialogue on how the urban planning processes can contribute to the livelihoods of all actors: plants, animals, young and old, residents and passers-by. This context, where design outcomes result from overcoming scarcity, calls for approaches that enable on-site identification of scarce resources, on-site design and testing proposals and negotiating results.

Differently from many reported co-design trajectories with organisations and authorities in Western contexts, institutions and residents dealing with scarcity on an everyday basis do not have the means or time to engage in intensive co-design trajectories.

Therefore, there is a need for more attention in the field to co-design instruments and tools that non-professionals can flexibly employ in their self-organised planning processes. This research mainly shows that skilled communicators and strong social networks are important resources for discussing and resolving anticipated conflicts that result from inadequately analysing scarcity or blindly copying universal standards into existing urban developments. It proposes that co-design approaches play a role in enabling everyday actors and institutions to connect and inspire each other and trigger them to tap into each other's experiences of scarcity and abundance. Further research into this potential is vital in creating urban developments that balance the needs of each key actor in the specific context of African cities. 2025

Disclosure statement

No potential conflict of interest was reported by the author(s).

ORCID

Liesbeth Huybrechts  <http://orcid.org/0000-0002-9281-4620>

References

- Benson, M., and I. Hamiduddin. 2017. *Self-Build Homes*. UCL Press London. <https://doi.org/10.14324/111.9781911576877>.
- Besha, R. 2019. *Collage of Fieldwork Photographs*. Ardhi University.
- Besha, R. 2021. *Collage of Fieldwork Photographs*. Ardhi University.
- Besha, R. 2022. *Collage of Fieldwork Photographs*. Ardhi University.
- Besha, R. 2023. *Collage of Fieldwork Photographs*. Ardhi University.
- Bratteteig, T., and I. Wagner. 2014. *Disentangling Participation: Power and Decision Making in Participatory Design*. Switzerland: Springer International Publishing. <https://doi.org/10.1007/978-3-319-06163-4>.
- Chambers, R., and G. Conway. 1992. *Sustainable Rural Livelihoods: Practical Concepts for the 21ST Century*. Brighton: Institute of Development Studies, University of Sussex (IDS discussion paper; no. 296.).
- Chien, K. 2017. "Entrepreneurialising Urban Informality: Transforming Governance of Informal Settlements in Taipei." *Urban Studies Journal* 55 (13): 2886–2902. <https://doi.org/10.1177/0042098017726739>.
- de Weijer, M., K. Cleempoel, and H. Heynen. 2014. "Positioning Research and Design in Academia and Practice. A Contribution to a Continuing Debate." *Design Issues* 30 (2): 17–29. https://doi.org/10.1162/DESI_a_00259.
- DfID. 1999. *Sustainability Livelihoods Guidance Sheets*. London: DfID.
- Edjabe, N., and E. Pieterse. 2011. *African Cities Reader II: Mobilities and Fixture*. South Africa: Chimurenga and the African Centre for Cities.
- Gehl, J. 2010. "Cities for People." In *Urban Streets: Epitomes of Planning Challenges and Opportunities at the Interface of Public Space and Mobility*. *Cities: The International Journal of Urban Policy and Planning*, edited by K. Carlotta von Schönfeld and L. Bertolini, 48–55. Washington D.C: Island Press.
- Gielen, P., and T. Lijster. 2017. "Art and Civil Action. Cultural Organisations in the European Civil Domain." *Visual Ethnography* 6:21–47. <https://doi.org/10.12835/ve2017.2-0085>.
- Google Earth. 2023. Accessed July 19, 2023. <https://earth.google.com>.

- Gunn, W., T. Otto, and R. C. Smith, Eds. 2013. *Design Anthropology. Theory and Practice*. London: Bloomsbury Academic.
- Hunt, J. 2011. "Prototyping the Social: Temporality and Speculative Futures at the Intersection of Design and Culture." In *Design Anthropology*, edited by A. Clark, 33–44. Vienna: Springer.
- Huybrechts, L., H. Benesch, and J. Geib. 2017. "Institutioning: Participatory Design, Co-Design and the Public Realm." *CoDesign* 13 (3): 148–159. <https://doi.org/10.1080/15710882.2017.1355006>.
- Huybrechts, L., O. Devisch, and V. Tassinari. 2022. *Re-Framing the Politics of Design*. Bruges: die Keure.
- Huybrechts, L., and M. Teli. 2020. "The Politics of Co Design." *CoDesign* 16 (1): 1–2. <https://doi.org/10.1080/15710882.2020.1728150>.
- Iossifova, D., Ed. 2013. *SCIBE. Scarcity and Creativity in the Built Environment*. The Bank of Ideas. <http://www.scarcity.is>.
- Jagtap, S. 2022. "Codesign in Resource-Limited Societies: Theoretical Perspectives, Inputs, Outputs and Influencing Factors." *Research in Engineering Design* 2022 (1): 1–21. <https://doi.org/10.1007/S00163-022-00384-1>.
- Kironde, J. M. L. 2006. "The Regulatory Framework, Unplanned Development and Urban Poverty: Findings from Dar Es Salaam, Tanzania." In *Evaluating the Effectiveness of Regulatory Framework in Providing Planned Land in Urban Areas: A Case of Dar Es Salaam City 20,000 Plots Project, Tanzania*, edited by B. G. Mwiga, 460–472. Vol. 23. The Netherlands: Ensched.
- Kironde, J. M. L. 2015. "Good Governance, Efficiency and the Provision of Planned Land for Orderly Development in African Cities: The Case of the 20,000 Planned Land Plots Project in Dar Es Salaam, Tanzania." *Current Urban Studies* 3 (4): 348–367. <https://doi.org/10.4236/cus.2015.34028>.
- Kraff, H., and E. Jernsand. 2023. "Time As an Issue of Power in Participatory Design." In *Nordes 2023: This Space Intentionally Left Blank*, edited by S. Holmlid, V. Rodrigues, C. Westin, P. G. Krogh, M. Mäkelä, D. Svanaes, and Å. Wikberg-Nilsson, 12–14. Norrköping, Sweden: Linköping University. <https://doi.org/10.21606/nordes.2023.70>.
- Layson, P. L., and X. Nankai. 2015. "Public Participation and Satisfaction in Urban Regeneration Projects in Tanzania: The Case of Kariakoo, Dar Es Salaam." *Urban, Planning and Transport Research* 3 (1): 68–87. <https://doi.org/10.1080/21650020.2015.1045623>.
- Majale, M. 2002. *Towards Pro-Poor Regulatory Guidelines for Urban Upgrading: A Review of Papers Presented at the International Workshop on Regulatory Guidelines for Urban Upgrading, Bouton On-Dunsmore*. United Kingdom: Practical Action.
- Moser, C. 1998. "The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies." *World Development* 26 (1): 1–19. [https://doi.org/10.1016/S0305-750X\(97\)10015-8](https://doi.org/10.1016/S0305-750X(97)10015-8).
- Mwiga, B. G. 2011. *Evaluating the Effectiveness of Regulatory Framework in Providing Planned Land in Urban Areas: A Case of Dar Es Salaam City 20,000 Plots Project, Tanzania*. The Netherlands: Ensched.
- Owens, K. E. 2014. "Negotiating the City: Urban Development in Tanzania, a Published." PhD diss., University of Michigan.
- Polk, M. 2015. "Transdisciplinary Co-Production: Designing and Testing a Transdisciplinary Research Framework for Societal Problem Solving." *Futures* 65: 110–122. <https://doi.org/10.1016/j.futures.2014.11.001>.
- Saad-Sulonen, J., E. Eriksson, K. Halskov, H. Karasti, and J. Vines. 2018. "Unfolding Participation Over Time: Temporal Lenses in Participatory Design." *CoDesign* 14 (1): 4–16. <https://doi.org/10.1080/15710882.2018.1426773>.
- Simone, A. 2010. "The Social Infrastructures of City Life in Contemporary Africa."
- Singh, D. R., R. K. Sah, B. Simkhada, and Z. Darwin. 2023. "Potentials and Challenges of Using Co-Design in Health Services Research in Low- and Middle-Income Countries." *Global Health Research and Policy* 8 (1): 5. <https://doi.org/10.1186/s41256-023-00290-6>.
- Theophilus, H. W., S. C. Kuria, G. K. Kapuire, N. J. Bidwell, and E. Blake. 2010. "Being Participated: A Community Approach." *Proceedings of the 11th Biennial Participatory Design*

- Conference (PDC '10)*, 1–10. New York, NY: Association for Computing Machinery. <https://doi.org/10.1145/1900441.1900443>.
- Till, J. 2009. *Architecture Depends*, 150. MIT Press. <http://site.ebrary.com/id/10273927?ppg=150>.
- Transport and Urban Projects Department. 1974. *Tanzania Appraisal of National Sites and Services Project*. Report No. 337a – TA.
- Tsing, A. L. 2017. *The Mushroom at the End of the World*. Princeton, NJ: Princeton University Press.
- Van der Velden, M., and C. Mortberg. 2014. *Participatory Design and Design for Values*. https://doi.org/10.1007/978-94-007-6994-6_33-1.
- Van Meerkerk, I., B. Boonstra, and J. Edelenbos. 2013. “Self-Organization in Urban Regeneration: A Two-Case Comparative Research.” *European Planning Studies* 21 (10): 1630–1652. <https://doi.org/10.1080/09654313.2012.722963>.
- Varma, D. S., K. Nandan, V. R. Pc, S. B, M. L. Pérez, S. K A, and M. V. Ramesh. 2021. “Participatory Design Approach to Address Water Crisis in the Village of Karkatta, Jharkhand, India.” *Technological Forecasting & Social Change* 172:121002. <https://doi.org/10.1016/j.techfore.2021.121002>.
- Vázquez, R. 2012. “Towards a Decolonial Critique of Modernity: Buen Vivir, Relationality and the Task of Listening.” In *Capital, Poverty, Development, Denktraditionen im Dialog: Studien zur Befreiung und interkulturalität*, edited by R. Fornet-Betancourt, 241–252. Vol. 33. Wissenschaftsverlag Mainz: Aachen.
- Vedasto, R. V., and L. K. Mrema. 2013. “Architectural Perspectives on Informalisation of Formal Settlements: Case of Sinza Neighborhood in Dar Es Salaam.” *Online Journal of Social Sciences Research* 2 (6): 151–172.
- Yin, R. 2014. *Case Study Research: Design and Methods*. 5th ed. Thousand Oaks, CA: Sage Publications, Inc.