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Diploma Thesis

Let's Roll the Dice!

Exploring Games and Play as an Inclusive Design Method

carried out for the purpose of obtaining the degree
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in collaboration with



and



This work included a research trip, funded by the *Scholarships for short-term scientific work and subject-specific courses abroad*.

Affidavit

I declare in lieu of oath, that I wrote this thesis and performed the associated research myself, using only literature cited in this volume. If text passages from sources are used literally, they are marked as such. I confirm that this work is original and has not been submitted elsewhere for any examination, nor is it currently under consideration for a thesis elsewhere.

Vienna, 2021



Signature

Welcome!

This book is about games. In fact, it is a bit of a game itself. Or to be more precise: it tells a story about people playing games with one another.

I tried to find out how games can be helpful in working together when we strive to improve life in cities. Because working together calls for more than one individual, this book is also a story about collaboration. That includes citizens, students, teachers, researchers, and a number different organizations. Connecting so many people, thoughts, ideas, emotions, cultures, languages, and dreams is about as complex as it sounds. We are all humans, and too often we are short-sighted, selfish, unaware of biases, afraid of change, or afraid of stagnation. I am hoping that through play we can learn to understand one another just a bit better.

This book contains experiences and ideas expressed through words, illustrations, and pictures, which might easily lead to controversial discussions. As the author of this work, I would like to invite you to read with a critical mind and reflect carefully what you find in this book. Please feel free to contact me, I would be more than happy to take part in a dialogue.

To make sure we are on the same page as we walk through this book together, you can read the short story alongside the Table of Contents on the following pages. It can give you an idea of how this book can be explored as a game itself.

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Expression of Thanks

As I am presenting this work, which would not have been possible without the love and support of so many wonderful people, I am especially thankful for...

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Table of Contents

1 PROJECT OUTLINE

1.1 ABSTRACT

1.1.1 ENGLISH

1.1.2 GERMAN

1.2 TERMINOLOGY

1.2.1 ACRONYMS AND ABBREVIATIONS

1.2.2 INDEX AND WORKING DEFINITIONS

1.3 INTRODUCTION

1.3.1 RESEARCH MOTIVATIONS

1.3.2 RESEARCH QUESTION

1.3.3 • PERSONAL NOTE • PROLOGUE

1.3.4 METHODOLOGICAL APPROACH

1.3.5 RESEARCH ETHICS

1.3.6 • PERSONAL NOTE • COLLABORATIVE VISION

WELCOME TO A
NEW GAME

2 Hey, I am glad
you are here!
2 Look, we've got a
new board game!
4 Do you want
to play?
6 - Absolutely!
6 Anybody else?
8 There are a
few things we
should clarify
12 before getting
started: Why are
12 we even playing
14 this game? Are
16 there any reasons
19 not to play?
20 Do we know how
22 to play?

2 THEORETICAL BACKGROUND

2.1 PARTICIPATION IN PLANNING

2.1.1 ARCHITECTS' SOCIAL RESPONSIBILITY

2.1.2 PARTICIPATORY DESIGN

2.1.3 WHAT IS DEVELOPMENT?

2.1.4 EXCURSUS: SYSTEMS THINKING AND CHAOS THEORY

2.2 WHAT ABOUT STAKEHOLDERS?

2.2.1 WHO OR WHAT CAN BE A STAKEHOLDER?

2.2.2 REVIEWING ANALYSIS TOOLS AND METHODS

2.3 SERIOUS GAMES AND PLAY

2.3.1 GAME THEORY

2.3.2 DEFINITION: "PLAYING GAMES"

2.3.3 SERIOUS GAMES AND URBAN PLANNING

2.3.4 SERIOUS CHALLENGES

2.3.5 CONCLUSION: PLAYING TOWARDS CO-PRODUCTION

WHAT'S INSIDE
THE BOX?

26 Okay, all set?
26 Let's open the box
and see what's
27 inside. We've
got a game board,
30 instructions,
34 hundreds of small
pieces, and dice.
36 The instructions
are quite long,
36 but I think we'll
37 manage. If we just
follow step by
40 step, what could
possibly go wrong?
40 Wait, is this
41 a false bottom
42 box? Somebody
44 must be playing
46 a trick on us...



RESEARCH CONTEXT

3.1	PRACTICE AND EDUCATION
3.1.1	VOICES FROM PRACTICE
3.1.2	LOCAL AND INTERNATIONAL PARTNERS
3.1.3	REALITY STUDIO (CTH)
3.1.4	URBAN CITIZENSHIP STUDIO (UP)
3.1.5	WORKSHOP ABOUT METHODS AND GAMES
3.2	SOUTH AFRICA
3.2.1	"SLUMS SHALL BE DEMOLISHED"
3.2.2	URBAN INFORMALITY
3.2.3	THE POTENTIAL ROLE OF ARCHITECTURE
3.2.4	HISTORICAL SNAPSHOT
3.3	PROJECT SITES
3.3.1	OVERVIEW
3.3.2	MAP AND URBAN STRUCTURE
3.3.3	SATELLITE IMAGE
3.4	MELUSI
3.4.1	INTRODUCTION
3.4.2	MAP AND URBAN STRUCTURE
3.4.3	SATELLITE IMAGE
3.5	MAMELODI
3.5.1	INTRODUCTION
3.5.2	MAP AND URBAN STRUCTURE
3.5.3	SATELLITE IMAGE
3.6	WOODLANE VILLAGE
3.6.1	INTRODUCTION
3.6.2	MAP AND URBAN STRUCTURE
3.6.3	SATELLITE IMAGE

SETTING UP THE GAME

50	<i>Trying to set up the game board is a lot harder than we initially thought. This game has more parts than any other game I know. Many pieces just won't fit, some cards are already ripped, and the dice somehow has seven sides. Honestly, that's never gonna work. Nobody can play this game, it's just too complicated. There are more instructions than anybody can read, yet none seems to explain the game as a whole. And who knows, some parts might even be missing or hidden? Anyways, who is up for trying to still play? - Sure! Let's give it a go and see what happens. It will probably be fun in the end!</i>
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64	
65	
67	
68	
70	
70	
72	
74	
76	
76	
78	
80	
84	
84	
86	
88	
92	
92	
94	
96	

4

FIELD STUDY: SOUTH AFRICA

4.1	PARTICIPATORY ACTION RESEARCH	102
4.1.1	INTRODUCTION TO PAR	102
4.1.2	IMPLEMENTING PAR	104
4.1.3	DOCUMENTING PAR	105
4.1.4	EXCURSUS: INITIAL CHALLENGES	106
4.2	PLAYING MELUSI	108
4.2.1	INTRODUCTION	108
4.2.2	SESSION ONE • 2021-03-29	109
4.2.3	SITE ACTIVITY • 2021-04-07	110
4.2.4	• PERSONAL NOTE • HUMAN THINGS	111
4.2.5	SESSION TWO • 2021-04-19	112
4.2.6	SESSION THREE • 2021-04-22	115
4.2.7	SESSION FOUR • 2021-05-11	120
4.3	PLAYING MAMELODI	124
4.3.1	INTRODUCTION	124
4.3.2	SESSION ONE • 2021-03-25	125
4.3.3	SESSION TWO • 2021-04-01	128
4.3.4	SESSION THREE • 2021-04-15	129
4.3.5	PLAYING PARTICIPATORY PHOTOGRAPHY	130
4.3.6	• PERSONAL NOTE • ON PHOTOGRAPHY	131
4.3.7	SESSION FOUR • 2021-06-10	134
4.4	PLAYING WOODLANE VILLAGE	136
4.4.1	INTRODUCTION	136
4.4.2	SITE ACTIVITY • 2021-04-23	137
4.4.3	SITE ACTIVITY • 2021-04-25	142
4.4.4	• PERSONAL NOTE • FENCES OF FEAR	143

READY, SET, GO!
- LET'S PLAY!

*Rolling the dice,
moving the pawns,
flipping cards,
and collecting
points. So far,
so good. As the
game continues,
things begin to
unfold, Looking
carefully, you
can still see
what's going
on, and it
makes you happy
just looking at
it: the whole
messy, colorful,
vibrant, chaotic,
ever-changing
game board!
Magnificent,
and seriously
complicated!
And we are not
talking about
a little bit
of clutter-this
is seriously
complicated. But
the dice are
rolling, and we
can't stop, just
because we are
getting tired.*

5

REFLECTION AND CONCLUSION

5.1	FIELDWORK ANALYSIS	148
5.1.1	FRAMEWORK	148
5.1.2	RECAP: GAME AND PLAY SESSIONS	149
5.1.3	COMPILING EXPERIENCES	152
5.1.4	DISSECTING THE CUBE	154
5.1.5	TIME AND SCALES	156
5.1.6	CO-CREATING IDEAS	164
5.1.7	PLAYING SPACE	170
5.2	CRITICAL REFLECTIONS	174
5.2.1	REFLECTION ON THEORY AND METHODOLOGY	174
5.2.2	THE POWER OF RULES IN SOCIAL SETTINGS	176
5.2.3	LUDUS AND PAIDIA TO OVERCOME (IN)FORMALITY	178
5.2.4	GAMES AS DESIGN METHOD	179
5.3	CONCLUSION	180
5.3.1	CONCLUSIONS AND IMPLICATIONS	180
5.3.2	FURTHER RESEARCH AND OUTLOOK	181
5.3.3	• PERSONAL NOTE • EPILOGUE	184

COUNTING THE
POINTS!

We made it! The winner has yet to be determined, but how complicated can that be? Very, complicated, to be precise. Counting points, missing a tiny detail, getting lost, counting again... Maybe it's enough to imagine that someone could win in the future. We all played our part and genuinely enjoyed playing. That's all that matters! - Or is it?

6

REFERENCES AND APPENDICES

6.1	REFERENCES	188
6.1.1	LIST OF CONVERSATIONS	188
6.1.2	LITERATURE	194
6.1.3	ONLINE	198
6.1.4	LIST OF FIGURES	200
6.1.5	LIST OF PHOTOGRAPHS	204
6.2	APPENDICES	206
6.2.1	TOOLBOX WORKSHOP WEEK II	206
6.2.2	GAMES FROM THE PAR PROCESS	224
6.2.3	PROJECT OUTCOMES: MELUSI	238
6.2.4	PROJECT OUTCOMES: MAMELODI	244
6.2.5	LETTER OF COLLABORATION - UP	256
6.2.6	LETTER OF COLLABORATION - CTH	258

SPARE PARTS AND
ACCESSORIES

Hold on, does anybody know what all those spare parts are for? Maybe we can just leave them there, just in case somebody else figures out another way to play the game. Wow, it's hard to believe we really did make it through this. Thank you for playing.



A black and white photograph of a metal fence with a hillside in the background. The fence is made of vertical bars with pointed tops. In the background, there is a hillside with sparse vegetation and some buildings. The text "PROJECT OUTLINE" is overlaid in the center in a bold, white, sans-serif font.

PROJECT OUTLINE

1.1

ABSTRACT

1.1.1

ENGLISH

The thesis at hand aims to explore how games and playful activities can be used as tools and methods for co-producing socio-spatial knowledge.

Games and play are increasingly gaining attention for their potential of being used beyond the purpose of mere entertainment. Games that aim to add a pedagogical aspect are commonly referred to as "serious games". In architectural and urban design professions, serious games seem to carry high potential as tools for inclusive and participatory processes. Discovering the possibilities of serious games was the initial research interest of this thesis. Literature studies about participatory planning, stakeholder collaboration, and serious games, provide a basis for the thesis analysis.

A research trip to South Africa made it possible for the games to be developed, tested, and evaluated in the field. The fieldwork activities were conducted in the form of participatory action research (PAR). It describes a methodological approach which seeks active interaction between the researcher and the researched. PAR aims at understanding the world through intervention and transformation. During the fieldwork I was constantly challenged to ask critical questions about what it is, that really matters when

people from different cultures take part in collaborative action. The research interest shifted in a direction of a more inclusive approach being: the co-production of socio-spatial knowledge through play. It became clear that there are socio-spatial dynamics occurring beyond stakeholder diagrams and game systems. Collectively striving for horizontal and inclusive dialogue, seems to raise the relevance of mutual learning and genuinely trying to understand different perspectives.

Critical reflections about experiences from the field study reveal ambivalent conclusions: Games and play show high value for the co-production of socio-spatial knowledge. However, their implementation may subconsciously impose questionable euro-centric norms upon others. This can happen through translating culture into play.

The following implications to the field of architecture and planning can be drawn: Architects are often trained to design an environment for others. This bias through education can strongly influence the perspective of an architect and make it hard to shift towards an inclusive approach of co-production: designing with others. It can be suggested that serious games become part of the methodological

toolbox that is used to create architecture, contributing to a more inclusive approach of the urban design professions. However, serious games and play should be used with special care, including the cultural understanding of games, their origins, and practice of play.

Hope remains that other urban professional can also learn from this experience. The provided conclusion and implications might provide a basis for a more sensitive positionality of co-production in the urban environment.

1.1.2

GERMAN

Die vorliegende Arbeit untersucht wie Spiele und spielerische Aktivitäten als Tools und Methoden für das Schaffen von sozialem und räumlichem Wissen eingesetzt werden können.

Das Potential von Spielen, über die üblichen Anwendungsgebiete von Unterhaltung hinaus, gewinnt zunehmend an Aufmerksamkeit. Spiele, welche pädagogische Aspekte aufweisen, werden üblicherweise als „Serious Games“ bezeichnet. In den Bereichen Architektur und Stadtentwicklung scheinen Serious Games hohes Potential als Tool für inklusive und partizipative Prozesse aufzuweisen. Der ursprüngliche Ansatz der Studie war die Möglichkeiten solcher Spiele zu erforschen. Literaturrecherchen über partizipatives Planen, Stakeholder Kollaboration und Serious Games, bieten eine Basis für die Analyse der Arbeit.

Eine Forschungsreise nach Südafrika ermöglichte das Entwickeln, Testen und Evaluieren von Spielen im Feld mittels Partizipativer Handlungsforschung (Abk.: PAR; vom Englischen Participatory Action Research). PAR beschreibt eine Forschungspraxis, die aktive Interaktion zwischen forschenden und teilnehmenden Personen anstrebt. Es wird versucht die Welt durch Initiativen und Veränderungen zu

verstehen. Während der gesamten Feldforschung wurde ich wiederholt herausgefordert kritisch zu hinterfragen was wirklich zählt, wenn Menschen mit unterschiedlichen kulturellen Hintergründen zusammenarbeiten. Der Forschungsschwerpunkt hat sich hin zu einem inklusiven Ansatz bewegt: dem gemeinsamen Schaffen von sozial-räumlichem Wissen durch Spielen. Es zeigte sich, dass sich mehr hinter dieser Arbeit verbirgt als Stakeholder-Diagramme und Systeme in Spielen. Beim gemeinsamen Streben nach horizontalem und inklusivem Dialog scheinen kollektives Lernen und der authentische Versuch unterschiedliche Perspektiven zu verstehen an Bedeutung zu gewinnen.

Kritische Reflexionen über die Erfahrungen der Feldforschung zeigen ambivalente Folgerungen: Spiele für das gemeinsame Schaffen von sozialem und räumlichem Wissen zu verwenden erscheint hilfreich. Der Einsatz von Spielen kann jedoch dazu führen, dass anderen Personen unterbewusst eurozentrische Verhaltensregeln aufgezwungen werden. Das kann durch die Übertragung von Kultur auf ein Spiel ausgelöst werden.

Folgende Auswirkungen für Architektur und Planung lassen sich feststellen: Architekt*innen sind

oftmals geschult eine Umgebung für andere zu gestalten. Diese Voreingenommenheit durch Bildung kann starke Auswirkungen auf die Perspektive von Architekt*innen haben und einen Perspektivenwechsel hin zu einer inklusiveren Herangehensweise erschweren: Gestalten mit anderen. Es kann vorgeschlagen werden, Serious Games zum „methodischen Werkzeugkasten“ für Architekt*innen hinzuzufügen, um zu einem inklusiveren Ansatz von urbanen Planungsexpert*innen beizutragen. Beim Einsatz von Serious Games ist jedoch spezielle Sorgfalt geboten, unter anderem in Bezug auf das kulturelle Verständnis von Spielen, deren Entstehung, Ausübungen von Spielen.

Es bleibt die Hoffnung bestehen, dass Architekt*innen und Städteplanungsexpert*innen von diesen Erfahrungen lernen können. Die genannten Schlussfolgerungen und Auswirkungen können für eine sensiblere Positionierung eine Basis bieten, wenn Serious Games als Methode zum gemeinsamen Schaffen der urbanen Umgebung zu Einsatz kommen.

1.2

TERMINOLOGY

1.2.1

ACRONYMS AND ABBREVIATIONS

AoGA	Architektur ohne Grenzen Austria (member of ASF International)
ASF	Architecture Sans Frontières International (Architecture without Borders)
CAP	Community Action Planning
CBO	Community Based Organization
CTH	Chalmers University of Technology (Sweden)
ECD	Early Childhood Development Center
EMI	Engineering Ministries International
FEDUP	Federation of the Urban and Rural Poor (South Africa)
IOM	International Organization for Migration (United Nations)
MDG	Millennium Development Goal (United Nations)
MYDO	Melusi Youth Development Organization (Pretoria)
NGO	Non-Governmental Organization
PAR	Participatory Action Research
POCAA	Platform of Community Action and Architecture (Bangladesh)
PP	Public Participation
SAP	Strategic Action Planning
SDG	Sustainable Development Goal (United Nations)
SKuOR	Interdisciplinary Centre for Urban Culture and Public Space (TU Vienna)
UUC	The Unit for Urban Citizenship (Institution at the University of Pretoria)
UN	United Nations Organization
UNICEF	United Nations Children's Fund (United Nations)
UP	University of Pretoria (South Africa)
US	United States of America

66

Play games, serious games
[...]
Have fun, feel good.

- Hamdi, 2010, p.201 -

99

1.2.2

INDEX AND WORKING DEFINITIONS

CO-PRODUCTION

/ kəʊ-prə'dʌkʃən /

Co-production aims at sharing and improving ideas together and in an inclusive manner. It is shaped and developed by constructive conflict. Methods and tools to implement *co-production* are constantly changing and growing. This thesis explores how games can be used for *co-production*.

COMMUNITY DEVELOPMENT

/ kə'mju:nɪtɪ dɪ'veləpmənt /

Community development refers to a process of collaborative action aiming to build more resilient, (typically) local communities. It is a broad concept and can take on different meanings depending on the context. *Community development* approaches are recognized by major international organizations.

COMPLEX SYSTEM

/ 'kɒmpleks 'sɪstəm /

A systematic approach which tries to capture a large number of interactions or connections, in order to understand their interdependencies. *Complex systems* find application in mathematics, biology, urban studies, and computational science. In this thesis it is used to deal with the high complexity of participatory processes and (in)formality. However, a *systems* perspective can also be limiting, and not everything can be captured using *complex systems*.

DEVELOPMENT

/ dɪ'veləpmənt /

Any kind of transformation towards a desired goal. Frequently used in the context of sustainable *development*. *Development* is a strongly biased notion, it needs to be questioned critically and used carefully. The work at hand takes place in a context which is frequently referred to as *development practice*.

FACILITATOR

/ fə'sɪlə'teɪtər /

A *facilitator* is a person who, individually or as part of a team, moderates a workshop, game session, or another kind of participatory interaction. *Facilitators* can strongly influence the process of an activity. Potential biases and preconceptions of a *facilitator* must be taken into account.

GAMIFICATION

/ ɡeɪmɪfɪ'keɪʃn /

Gamification describes the process of adding game mechanics to non-game environments. It can be applied to systems, services, organizations, and activities in order to create similar experiences to those experienced when playing games.

INFORMALITY

/ ˌɪnfɔː'mælɪti /

Commonly used to describe the opposite of “formality”; (which can be criticized because of strong dualistic thinking it can create). Sometimes falsely applied in conjunction with chaos, poverty, instability, illegality, etc. In the context of urban studies, often used in *informal* settlement, or *informal* social networks.

INTERCULTURAL COMMUNICATION

/ ˌɪntə'kʌltʃərəl kə'mjuːnɪ'keɪʃən /

Intercultural communication seeks to understand how people from different cultures perceive the world and create dialogue between them. It is often dependent on the mutual exchange of ideas and cultural norms, trust and relationships. In the context of this thesis *intercultural communication* is essential to better understand the co-production of knowledge.

LUDUS

/ ˈlʊdɪs /

Ludus represents play in form of a game. It is usually structured, functions according to a set of rules, and its boundaries are clearly defined. On the other end of the scope is unrestricted play, called *Paidia*. The notion can help to understand and analyze the dynamics of games and play in more depth.

METHOD

/ 'meθəd /

An intended and systematic way of navigating through a process. *Methods* can be used to implement or analyze certain parts of a process, for which different tools are available. In the context of this work *methods* are used in processes of co-production, placemaking, and urban transformation.

PAIDIA

/ paɪ'diə /

Play, which is characterized by free human acting to its highest degree, can be called *Paidia*. It represents one side of a scope in which play can be defined—*Ludus* representing the other side. The notion can help to understand and analyze the dynamics of games and play in more depth.

PARTICIPATORY ACTION RESEARCH

/ pɑː'tɪsɪpət(ə)ri 'ækʃ(ə)n 'riːsɜː(r)tʃ /

Participatory Action Research (PAR), describes a methodological approach which seeks active interaction between the researcher and the researched. It aims at understanding the world through intervention and transformation. Ethical concerns need to be investigated carefully, especially when applied in intercultural contexts. *PAR* was applied in the process of carrying out the thesis at hand.

PARTICIPATORY DESIGN

/ ˌpɑː'tɪsəpəˌtɔːi dɪ'zain /

In contrast with user-centered approaches, *participatory design* views people as valuable partners throughout a design process. Depending on the context, *participatory design* can refer to a method, a set of tools, or a mindset.

PLACEMAKING

/ 'pleɪs'meɪkɪŋ /

Describes the process of creating and sustaining all kinds of places that are of social and spatial relevance. *Placemakers* include all people who are a part of the process—it is not limited to professionals such as architects or planners. Socio-spatial transformation and *placemaking* are frequently related notions.

PROCESS

/ 'prəʊses /

A sequence of linear and non-linear actions, sometimes aiming towards a certain goal. *Processes* can take place with or without being perceived as such, (intended or unintended). *Processes* can contain chronological and/or non-chronological dimensions and can be perceived in linear and/or non-linear ways. Different tools and methods can help to understand and structure *processes*.

REALITY STUDIO

/ ˌrɪ'æləti 'stɪdi,ʊ /

Reality Studio is an architectural design course within the *Architecture and Planning Beyond Sustainability* Masters Program at Chalmers University of Technology, Gothenburg, Sweden. *Reality Studio* worked in partnership with the *Urban Citizen Studio* (University of Pretoria, South Africa). A collaboration between the author of this work and students from this course was essential in carrying out the work at hand.

SERIOUS GAME

/ 'sɪriəs geɪm /

Although *Serious Game* may sound like an oxymoron, it is not. Most commonly known games are designed solely for the purpose of entertainment, *serious games* offer additional functionalities, for example pedagogical aspects. Almost all games mentioned in this thesis are *serious games*.

SLUM

/ slʌm /

The term *slum* is just one, among many words describing similar urban fabric and socio-economic situations of segregated and marginalized people who live in poverty to a certain degree. Although variant terms, such as *informal settlement* or *squatter camp*, usually do not describe the same notion, they are sometimes used interchangeably.

SOCIAL INCLUSION

/ səʊʃəl m'kluzən /

Describes an approach of making individuals and groups part of a process. It tries to improve the opportunity and uphold the dignity of those currently excluded. *Social Inclusion* is a multi-dimensional notion. It includes social, political, cultural and economic dimensions.

STAKEHOLDER

/ 'steɪkhəʊldə /

In this thesis, the term *stakeholder* refers to someone or something that is interested in or impacted by the implementation of a process or project. It can include individuals, communities and groups of people, organizations, governments, companies, as well as animals, plants, future generations, etc.

TOOL

/ tu:l /

Tools are used to support the implementation of methods. Using a *tool* usually correlates with a certain method, and vice versa. A *tool* can be a physical, digital, or conceptual instrument, usually designed for a specific purpose.

TOWNSHIP

/ 'taʊnʃɪp /

This term in a South African context refers to monotonous and mono-functional (mostly suburban) areas. *Townships* are often characterized by extreme socio-economic dependencies and a fluctuating relationship between formality and informality.

URBAN CITIZEN STUDIO

/ 'ɜrbən 'sɪtəzən 'stɪdi,ou /

Urban Citizen Studio is part of the Honours and Masters Program in Architecture at the University of Pretoria, South Africa. Through the structure and dynamics of the course the students are well connected with local actors, which served as a basis for *Participatory Action Research*. *Urban Citizen Studio* worked in partnership with *Reality Studio* (Chalmers University of Technology, Sweden). A collaboration between the author of this work and students from this course was essential in carrying out the work at hand.

WORKSHOP

/ 'wɜ:kʃɒp /

In the context of the thesis at hand, *workshop* is used to describe any kind of planned activity which includes a (team of) facilitator(s) and a number of participants. *Workshop* goals can include mutual learning, co-design, and participatory action. Most *workshops* in this work include game and play activities.

1.3

INTRODUCTION

1.3.1

RESEARCH MOTIVATIONS

A number personal interests and concerns of the author brought forth the motivations behind this study. Among others they contain: enthusiasm about (serious) games and play; interest in—what is commonly referred to as—*development practice* or *development work*; and engagement in social and political matters. Furthermore, this work is written from a critical position towards the discourse of architecture and planning.

“In reality, architecture has become too important to be left to architects.”

(de Carlo, 1971, p.13)

Intercultural co-production can be a challenging obstacle in the field of architecture and planning. Even in cases where Non-Governmental Organizations (NGOs), Community Based Organization (CBOs), local citizens, global organizations and academia are trying to work towards the same goal—different motivations, intentions, resources, and power positions can lead to major delays and complications in those processes. Such issues may be caused through misunderstandings, and intentional or unintentional abuse of power.

Serious games and gamified processes have shown to be valuable methods and tools for architectural and urban design processes.

Additionally, the notion of *placemaking* has introduced new ways of allocating roles in spatial co-creation. *Placemaking* describes the process of creating and sustaining all kinds of places that are of social and spatial relevance. *Placemakers* include all people who are a part of the process—it is not limited to professionals such as architects or planners (Hamdi, 2010, p.xviii).

It is of utmost importance for architects and planners to understand their role in urban co-production processes. Because the role an architect will take in their professional life is strongly influenced by educational conditions, it is indispensable to discuss educational issues within this context.

The discourse of education in architecture and planning education has been undergoing major changes during the past few decades. The constant adaptation to current global economic, ecological and societal challenges, leaves the hope to a paradigm shift towards a more equitable and sustainable future. Cross-disciplinary programs (e.g.: architecture, planning, product design, etc.) hold the potential in the combination of competence in different fields.

***Building is not necessarily
the best solution
to a spatial problem.***

- Price, as cited in Awan et al., 2011 -

Exposing students to the *real world*, operating from within the safe space they inhabit, certainly seems like a reasonable approach towards integrating more inclusive methods into the education of urban professionals. Their encounter with the world, undeniably nasty and rough, and all too real, can make students reflect on their positionality. Such experiences can be overwhelming, yet the role as a student can provide the necessary security and stability.

Additionally challenging, is the need to ensure inclusive and healthy collaboration with external stakeholders *outside* the students' comfort zone. Institutions, groups of people, and individuals, with whom students are to collaborate, as well as the students themselves may hold misconceptions, leading to inevitable disagreements.

Such complex circumstances—however complicated and irresolvable they may seem—provide an enormous potential for growth and opportunities for dialogue. However, the risk to cause harm remains, and has to be considered. Continuous critical reflection is necessary. It can reveal unintended effects and lead to a valuable learning experience.

To make use of the potential to expose students to the field, while at same time being careful and

sensitive towards the local context, seems only possible if such processes are implemented in a way which is mutually beneficial and well understood by both students and the people outside a university context.

The thesis at hand aims to explore how games and playful activities can be useful tools and methods for co-producing socio-spatial knowledge. A research trip to South Africa made it possible for the games to be developed, tested, and evaluated in the field.

1.3.2

RESEARCH QUESTION

The thesis at hand describes the process of developing, testing, and evaluating games and playful activities. Games implemented in this study aim at co-producing socio-spatial knowledge. The research focuses on learnings from field study activities conducted in Pretoria, South Africa. The following questions are used as a guiding boundaries and starting point for reflections throughout the development of this work.

1. How can games contribute to an inclusive approach of co-producing knowledge about people and space?

2. What dimensions of play are revealed when implementing play in an intercultural context?

The second question can be considered a sub-question to the first one. In the concluding chapter¹ the sub-question will first be transformed into a framework which helps to discuss the overarching main research question.

Figure 1 shows the research questions and relates them to delimitations and terms which might show connotations to this thesis. Crossed-out words describe terms that this work does not want to represent. Questionmarks indicate uncertainty towards certain notions.

The goals for this thesis are:

- A reasonable contribution to architectural and urban design methods within the development practice discourse, by co-creating and implementing serious games.
- Contributing to the pedagogical and co-learning experience within the courses *Reality Studio* (Chalmers University of Technology, Sweden) and *Urban Citizen Studio* (University of Pretoria, South Africa), throughout the design processes of students projects.
- Gaining deeper insight in ethical challenges and potentials when implementing games and play in intercultural development practice.
- Working towards the United Nations (UN) Sustainable Development Goals (SDGs) (United Nations General Assembly, 2015). Special focus will be given to SDG 4² (*ibid*, p.17), through mutual learning throughout the research process; SDG 10³ (*ibid*, p.21), through trying to implement a democratic and horizontal dialogue between stakeholders; and SDG 11⁴ (*ibid*), through the wider aim of the project, which is to add methods for processes of socio-spatial transformation.

¹ See page 147.

² SDG 4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN General Assembly, 2015, p.17)

³ SDG 10: “Reduce inequality within and among countries” (UN General Assembly, 2015, p.21)

⁴ SDG 11: “Make cities and human settlements inclusive, safe, resilient and sustainable” (UN General Assembly, 2015, p.21)



- #seriousgames
- #gamification
- #dice
- #games
- #tools
- #play
- #nonlocal
- #ludus
- #city
- #change
- #codesign
- ~~#helpingothers~~
- #action
- #process
- #collaboration
- #challenges
- #communication
- #unfoldingstories
- #informality ?
- #knowledge ?
- #data ?
- #potentials
- #development ?
- #architecture
- ~~#heritageconservation~~
- #ethics
- #paidia ?
- #formality ?
- #methodology
- #planning
- #shufflethecards
- #unlearning
- #participation
- #design
- #stakeholders ?
- ~~#howto~~
- #learning
- #gametheory
- #settlement
- #remote
- #communitydevelopment
- #systems ?
- ~~#empowering~~
- #research
- #local
- #people
- ~~#globalsouth~~
- #urban
- #social
- #photography
- #space
- #justice ?
- #research
- #coproduction
- #intercultural
- #action
- #storytelling
- ~~#whitesaviours~~
- #placemaking
- #education
- #reality ?
- #southafrica
- #emergence
- #citizenship
- #rights ?
- #pedagogy
- #place
- #communication
- #inclusion

FIGURE 1

Notes on the research questions; a list of hashtags the thesis refers to, is questioning, or does not be associated with.

Source: author, 2021.

PROLOGUE

Welcome! I am inviting you to join me on an exciting journey of hope, frustration, controversies, and joy. Those ups and downs are not just descriptive of experiences throughout the development of this work, but also capture what studying architecture means for me.

Writing this thesis is not just an educational necessity to receive an academic degree, but rather an opportunity to challenge myself to discovering what matters. I consider works like this one as never truly finished. It is another step in a life-long learning process, and therefore contains mistakes and other ugly things.

Regarding the topic of this work, my personal excitement about games made the choice quite an easy one. Beyond that, I have always been interested in discussions about poverty, development practice, and postcolonialism. I like to believe that those are themes that matter, and I use games as a means for the purpose on the way to explore what I think is important.

As you flip through the pages, you will find many illustrations and pictures supporting the text. All three components work together to explain the content. I call it a cross-media collaboration.

You will also see a lot of uncensored photographs, showing faces of children, and poverty. Because of the high controversial potential of this issue, I will explain my position in further detail on page 131.

“

In reality, architecture has become too important to be left to architects.

- de Carlo, 1971, p.13 -

”

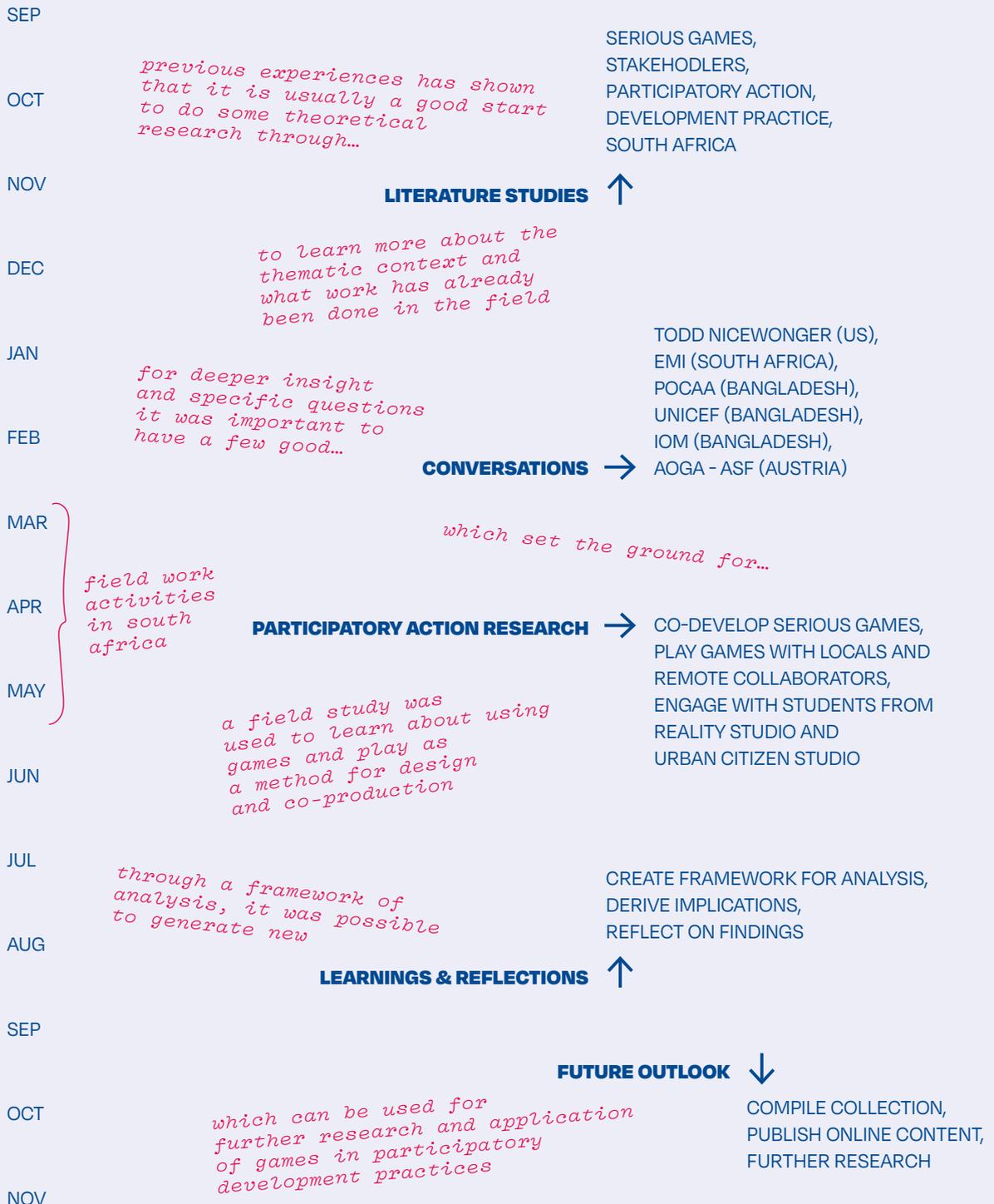


FIGURE 2 Thesis work processes: chronological outline and methods.

Source: author, 2021.

1.3.4

METHODOLOGICAL APPROACH

To investigate the research question, the following methods are chosen:

- Literature studies
- Semi-structured interviews
- Participatory Action Research (PAR)
- Framework analysis and reflection

The first two methods represent an iterative phase of learning and unlearning certain narratives and notions concerning the topic of using games as a design method for co-production in urban development processes.

First, a theoretical analysis of research in the context of stakeholder collaboration, serious games, participatory action, and development practice was conducted, mainly through studying literature and previous research in the field.

Through semi-structured interviews with/for development organizations, students, architects, and others, deeper insight into real-life scenarios of development practice is provided. The conversations with people working with/for organizations in the field of development help to design the project according to real needs of organizations and urban design professionals, and therefore ensure relevance and a valuable contribution to the field.

The third and fourth step include the implementation of PAR⁵ (which is the main part of this work),

and learnings thereof. The PAR is conducted through field activities in Pretoria, South Africa. The process is carried out in collaboration with two architectural design courses: the *Urban Citizen Studio*⁶ at the University of Pretoria (UP), and *Reality Studio*⁷ at Chalmers University of Technology (CTH).

Additionally, it is relevant to mention that photography served as part of the PAR process to conduct and document the research.

To analyze the experiences from the study a framework was created and applied, followed by a critical reflection on the theories and methods used in this work.

5 Details on how PAR is implemented and documented are given on page 102.

6 See page 57.

7 See page 56.

1.3.5

RESEARCH ETHICS

As the author of the work at hand, I am taking the opportunity to explore epistemic diversity in the process of conducting ethnographic research as part of the research questions and beyond.

Using PAR as the main research method in a diverse cultural context comes with a number of ethical questions. The challenges encountered in carrying out this work can be illustrated in a knot (Figure 3). It contains two main ideas:

Firstly, I encountered three dimensions of ethical concerns in the process of producing this work. My own background (shown in red), including biases and a certain worldview due to my upbringing and prior education, influences how I perceive my environment and decide to interact with it. The local environment I worked in (shown in blue), has its own biases and cultural boundaries. Besides the geographical context, the work is part of a wider discourse of academic research and theory (shown in white). Immersing myself into a mostly unknown setting requires rules and guidelines, to ensure fair interaction and avoid potential harm. Many times during producing this work, the undertaking of mapping and getting oriented in this three-dimensional world as explained above seemed rather difficult, hopeless and frustrating.

In contrast to this rather pessimistic idea of the knot—seemingly impossible to untie—is the second picture: an infinite loop of learning. The geometric structure is infinite, representing a never-ending path, waiting to be walked by us, while constantly learning about more inclusive and dynamic ways of intercultural human interaction. In order to complete the loop, all three surfaces have to be touched at different places, and constantly reworked and re-interpreted. The journey is not going to end soon, but we are left with hope, constantly moving towards a better future.

Additionally I would like to refer to an article written by Pranee Liamputtong (2010), that describes ethical and methodological challenges, which come with performing cross-cultural⁸ research. Even today, many people are harmed by the work of colonial researchers. Two approaches are presented, which provide a theoretical framework for cross-cultural researchers: *healing methodology* and *decolonizing methodology*. Both are qualitative research methods, which focus on providing benefits for the participants, instead of harming them (*ibid*). The paper served as a source of inspiration and an eye-opener for difficult ethical questions.

⁸ *Cross-cultural and intercultural are not interchangeable, yet the work done by Liamputtong (2010) provides a valuable contribution for the work at hand.*

DIMENSIONS OF RESEARCH ETHICS AND FIELD WORK



- LOCAL CULTURE
- PERSONAL BACKGROUND
- RESEARCH DEVELOPMENT

who dares to untie the impossible knot of ethics in intercultural research?

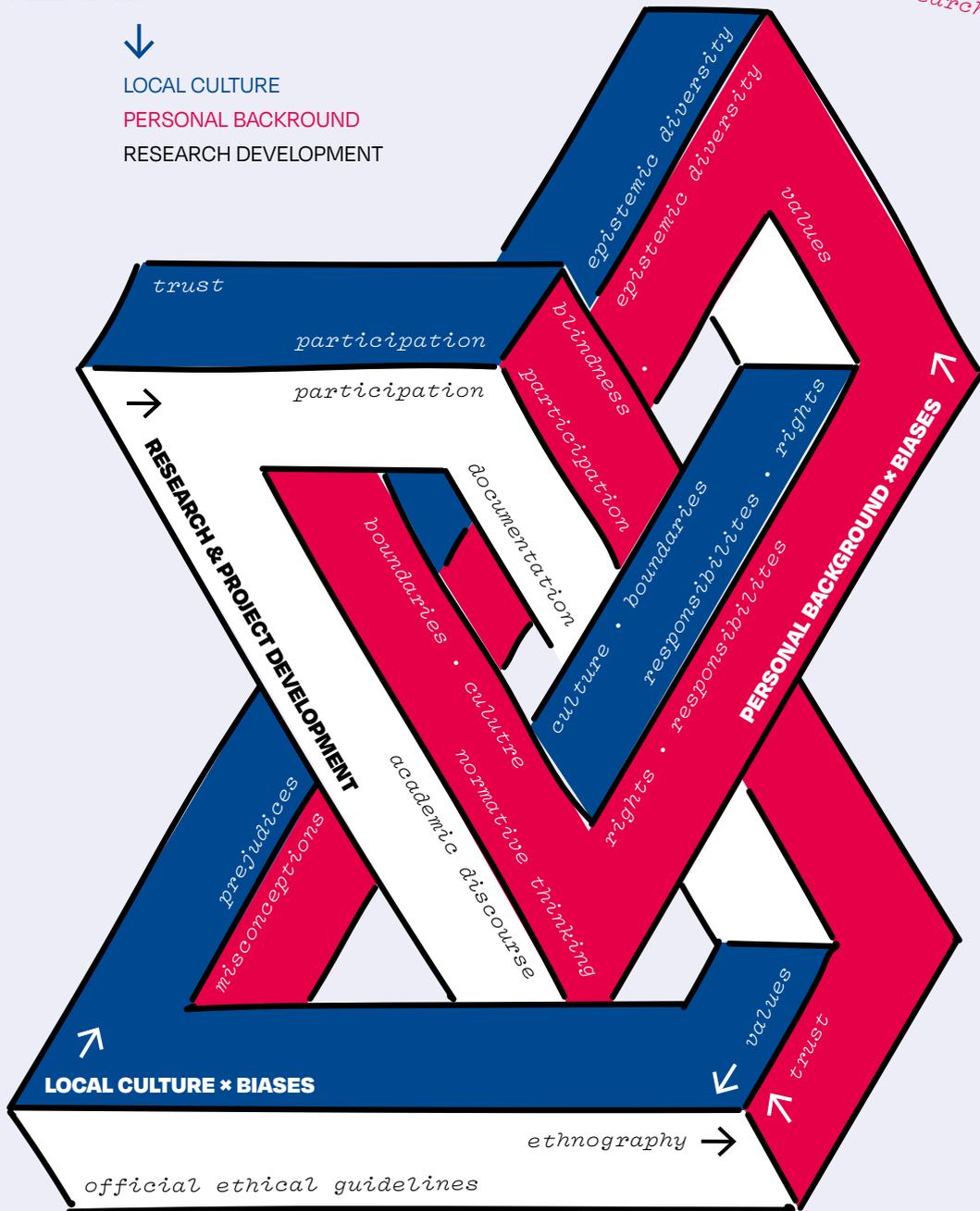
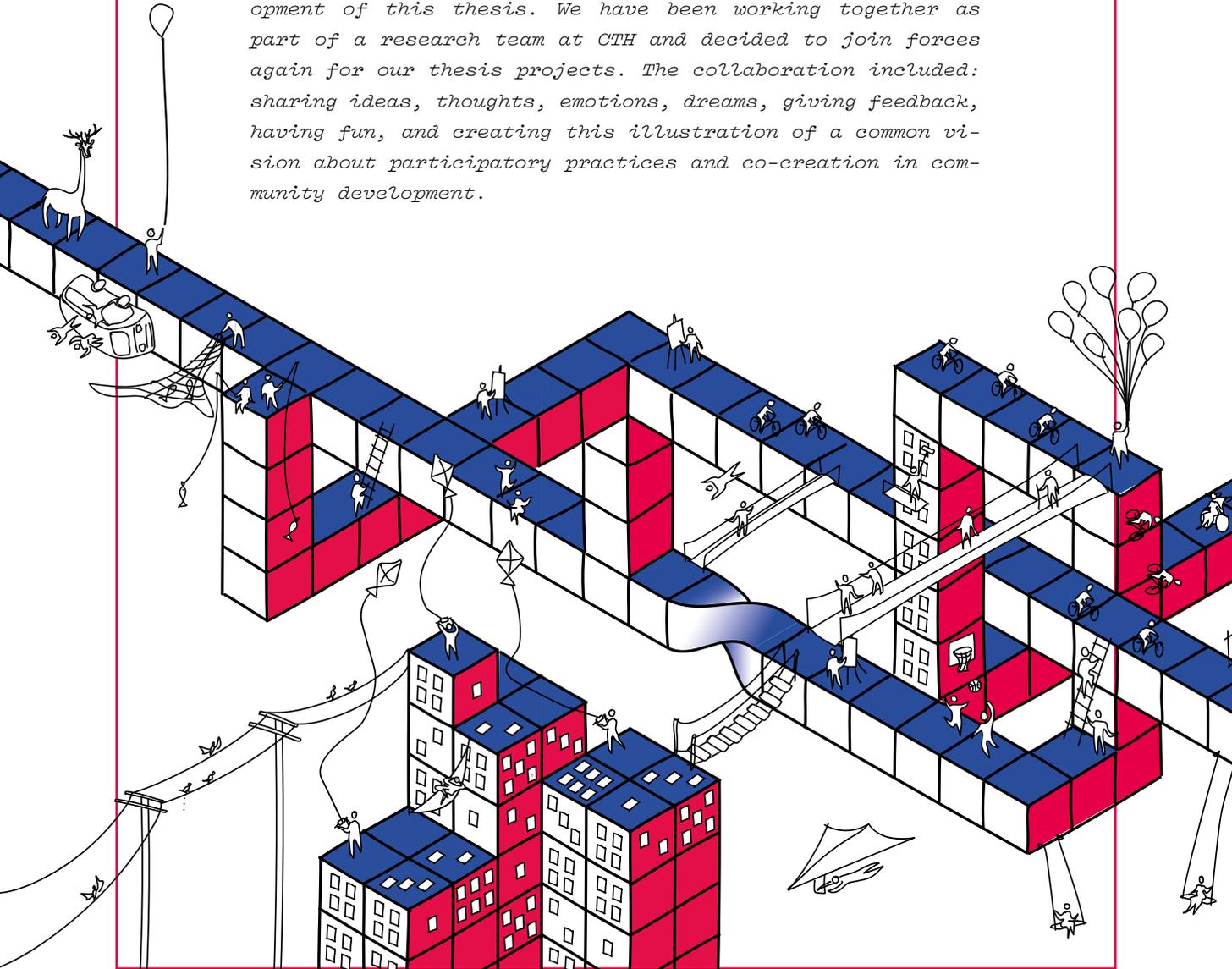


FIGURE 3 The impossible knot of ethics in intercultural research.

Source: author, 2021.

COLLABORATIVE VISION

A thematically overarching collaboration with Mumtaheena Rifat and Robin Eskilsson continued throughout the development of this thesis. We have been working together as part of a research team at CTH and decided to join forces again for our thesis projects. The collaboration included: sharing ideas, thoughts, emotions, dreams, giving feedback, having fun, and creating this illustration of a common vision about participatory practices and co-creation in community development.*



* All work shown in this thesis was produced by the author unless clearly indicated otherwise.

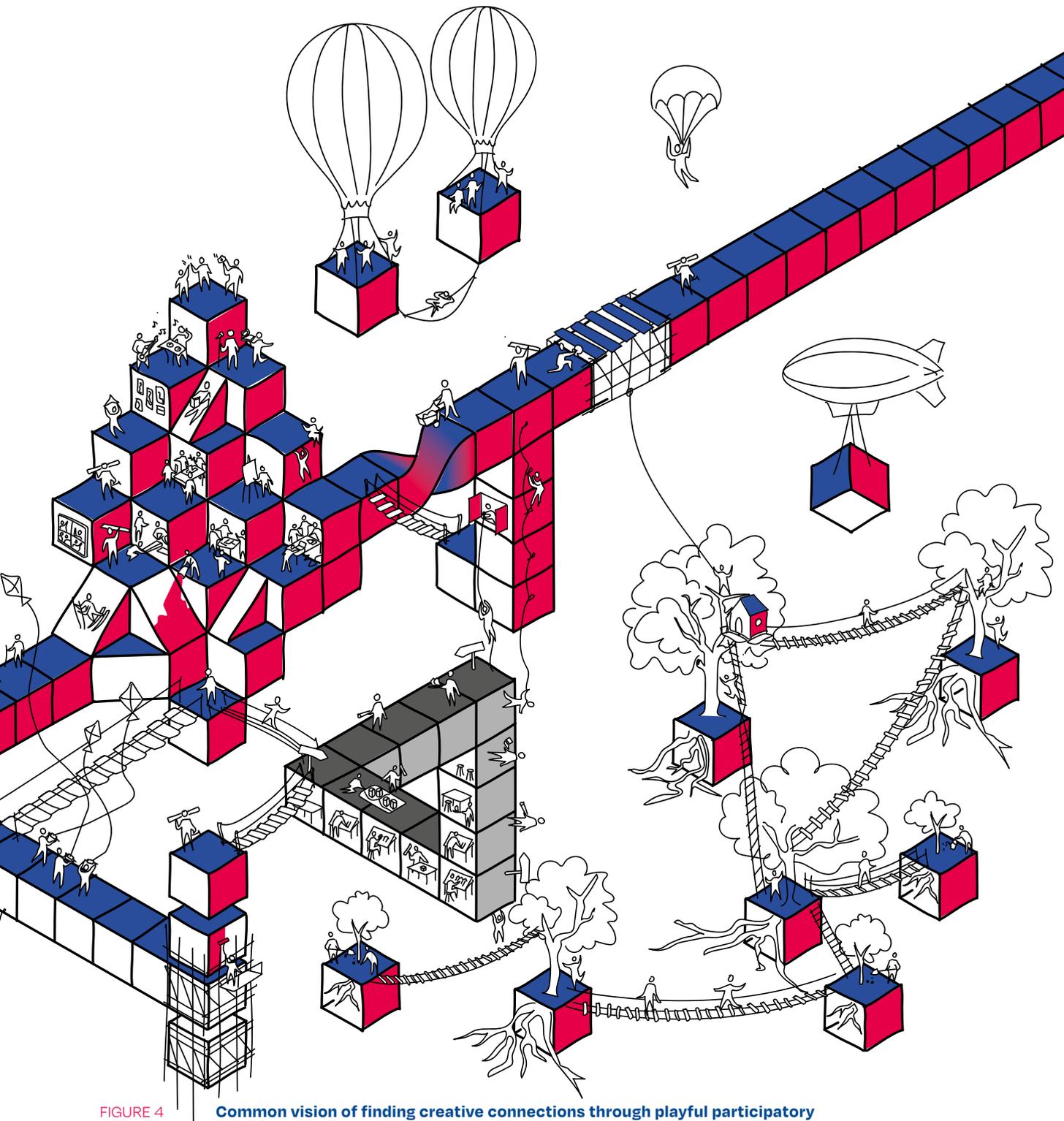


FIGURE 4

Common vision of finding creative connections through playful participatory practices in community development and spatial co-creation.

Source: Eskilsson, Rifat, author, 2021.





THEORETICAL BACKGROUND

2.1

PARTICIPATION IN PLANNING

2.1.1

ARCHITECTS' SOCIAL RESPONSIBILITY

It was in the second half of the 20th century, when “architects where at last beginning to realize that they were in a position of social responsibility”, as Nabeel Hamdi (2010) argues in his book *The Place-maker's Guide to Building Community* (p. xiv).

Different disciplines evolved throughout the last few decades, trying to find answers to the realization of the architect's social responsibility. Approaches, such as citizen participation, social inclusion, and co-creation—all of which have different meanings depending on the definition and context—are aiming to design *with* people, instead of *for* people.

Giancarlo de Carlo (1971), argues that architecture needs to be transformed from an authoritarian act into a process—through participation (p. 16). The collectivity (of users) has no reason to support the plans made *for* them, since it has not participated in the formulation of those plans (p. 16).

He suggests the following:

“But identifying with the users’ needs does not mean planning ‘for’ them, but planning ‘with’ them. In other words it means enlarging the field of participation through the definition and use of the plan, introducing into the system a whole set of complex variables which could never be composed into balanced situations except with procedural systems based on a continual alternation of observations, propositions, and evaluations; i.e. the use of scientific method. On this point we must be clear. Therefore we must start by clarifying the basic differences between planning ‘for’ users and planning ‘with’ them.”

(de Carlo, 1971, p.15)

2.1.2

PARTICIPATORY DESIGN

Depending on the context, *Participatory Design* can refer to a method, a set of tools, or a mindset (Sanders, 2013, p.73). First practiced in northern Europe in the 1960's and 1970's, participatory approaches are now used all around the globe (ibid). In the United States the terms *co-creation* and *co-design* are common, sometimes used as a marketing concept (ibid, p.62).

In contrast with user-centered approaches, where people are served by design and therefore treated as customers, consumer and/or users, participatory design sees them as "valuable partners in the design and development process" (Sanders, 2013, p.61).

Arnstein (1969) describes a typology of participation, using a ladder with eight rungs for illustrative purposes (p.2). It can serve as a great point of reference in a dialogue about participation, showing a range from *manipulation* to *citizen control* (see Figure 6).

At the bottom of the ladder happens what Pateman (1970) calls *pseudo-participation* (p.25). It covers techniques to *educate* participants, so that they will accept decisions that have already been made. In contrast to *manipulation*, Pateman talks about equal powers of each member to determine decision outcomes (Pateman, 1970).

Placemaking, as an approach of architecture and urban design, has evolved from mere effective and creative planning, to including community building and peace-building. Hamdi (2010) also writes that, *placemaking* could be used to mediate between interests, values, cultural norms, and religious

practices. He continues to embed this approach into *Strategic Action Planning* (SAP) and *Community Action Planning* (CAP), discussed in more detail on the following pages. (Hamdi, 2010)

Co-creative approaches to design challenges, hold the potential to overcome certain socio-economic and socio-political issues. All the more, one must be aware of risks and political circumstances under which such process take place.

Palmås and Busch (2015) are revealing such, by reviewing a case of participatory urban planning in Gothenburg, Sweden. After taking part in a *partnership planning* process, initiated by a municipal company, some participants report they "were struggling to find traces of [their] input in the final outcomes of the process" (p.236).

One, among many possible reasons for this outcome, as described in the article, is that the very setup of the so-called *democratic process* consisted of mechanisms precluding any significant influence from participants (ibid, p.239). In opposition to Arnsteins (1969) *Ladder of Citizen Participation*, Swyngedouw (2005) argues that "'participation' is invariably mediated by 'power'" (p.1998), describing it as "an integral part of the consolidation of an imposed and authoritarian neo-liberalism" (p.1998). Palmås and Busch (2015) suggest that the planning profession is unconsciously taking an ideological line—not explicitly *neoliberal*—but following a *protocol* (p.245), saying that "the designers of the Dialogue Process, the planners cannot, should not, and do not want to process 'political proposals'" (Strömberg, 2006,

je participe
tu participes
il participe
nous participons
vous participerez
ils profitent



FIGURE 5

French student Poster. In English, "I participate, you participate, he participates, we participate, you participate, they profit."

Source: A Ladder of Citizen Participation, Arnstein, 1969. [colors added]

p. 86). Through the translation of ideas, from *visionary* to *visualizable*, certain (arguably unwanted) information is labeled *incompatible* and therefore gets filtered out (Palmås and Busch, 2015, p. 243–245). A distortion of the original proposal, which now fits in the political scheme of the so-called “participatory urban planning process”, is the result (*ibid*).

Early critique on the matter of participation, was well captured by a poster produced during the Paris student demonstrations in May 1968 (see Figure 5). “The poster highlights the fundamental point that participation without redistribution of power is an empty and frustrating process for the powerless. It allows the powerholders to claim that all sides were considered, but makes it possible for only some of those sides to benefit.” (Arnstein, 1969, p.2)



FIGURE 6

A ladder of citizen participation.

Source: *A Ladder of Citizen Participation*, Arnstein, 1969.

2.1.3

WHAT IS DEVELOPMENT?

The word *development* has become an increasingly ambiguous term—politically, ideologically, and subsequently: in practice. Hamdi (2004), exemplifies this by showing the predictable responses, to asking the question, “[W]hat is development?” (p. xv). Commonly associated terms, such as *sustainability, inclusion, participation, partnership, progress, empowerment*, and many others, can lead to an endless discussions. Without doubting the significance of such dialogues, it seems to make an unprejudiced discussion about the topic rather complicated.

The United Nations (UN) describe *development* as a “*plan of action for people, planet and prosperity*”, in the so-called *Agenda 2030* (UN General Assembly, 2015, p.1). A global agenda for development was announced, which added to, and built on the Millennium Development Goals (MDGs). The aims are re-organized into 17 Sustainable

Development Goals⁹ (SDGs) and contain a total of 169 targets. Referring to urban development as the general field, goal 11, “*make cities and human settlements inclusive, safe, resilient and sustainable*” (ibid, p.21), is the most relevant SDG in the context of this thesis. Targets 11.3¹⁰, 16.7¹¹, 16.8¹², 17.16¹³, and 17.17¹⁴ most appropriately apply more specifically to how this thesis project tries to make a valuable contribution to the discourse.

Illuminated from a rather critical point of view, development is discussed by Robert Chambers (2017) in this book *Can We Know Better? - Reflections for Development*. He describes how the conditioning by education, specialization, skills, professionalism, and positionality, influences the preferences of one approach over another (ibid, p.58). Furthermore, Chambers (ibid) points out how biases and blind spots continue to consciously or subconsciously distort the lenses of researchers and

⁹ The scope of this thesis does not allow for the thorough discussion, needed on the UN SDGs. Nevertheless, due to their detailed description, they serve as a suitable point of reference in a dialogue about development.

¹⁰ SDG 11, Target 11.3: “*By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.*” (UN General Assembly, 2015, p.21).

¹¹ SDG 16, Target 16.7: “*Ensure responsive, inclusive, participatory and representative decision-making at all levels.*” (UN General Assembly, 2015, p.25).

¹² SDG 16, Target 16.8: “*Broaden and strengthen the participation of developing countries in the institutions of global governance.*” (UN General Assembly, 2015, p.25).

¹³ SDG 17, Target 17.16: “*Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries.*” (UN General Assembly, 2015, p.27).

¹⁴ SDG 17, Target 17.17: “*Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships.*” (UN General Assembly, 2015, p.27).

development workers (p. 27-56). He states that, "[i]n much development discourse, [...] development actors are assumed to want to know. This assumption reflects ignorance of the psychology and sociology of ignorance" (ibid, p.28).

Despite concerns regarding neoliberalism, postcolonialism, and other political matters, an overarching understanding about the importance of relating global and local challenges seems to exist across development institutions and practitioners. Hamdi (2004, 2010) suggests what he calls *Strategic Action Planning* (SAP) and *Community Action Planning* (CAP). Both are addressing global and local development; their interconnection is illustrated in Figure 8. *Action Planning* tries to establish the missing link between policy makers and fieldworkers, generating one feedback loop including both areas, and thus providing an alternative approach to mere bottom-up or top-down thinking.

Hamdi (2004) suggests the following two major amendments to the currently widely used system: Firstly, the order of work on an urban/national level should be reversed, in order to create more synergy between strategic structures (designed, top-down), and practical work (emergent, bottom-up). Secondly, development practice should take its own position, outside of those realms, yet closely collaborate with actors of both, local fieldworkers (NOGs, CBOs, local authorities, private entrepreneurs) and national/urban policy makers (local authorities, national government, national-level enterprise). (Hamdi, 2004, p.101-102)

“

***Development is
not done
to people or
for people but
with people.***

-
Corbett & Fikkert,
2012, p.100
-

”

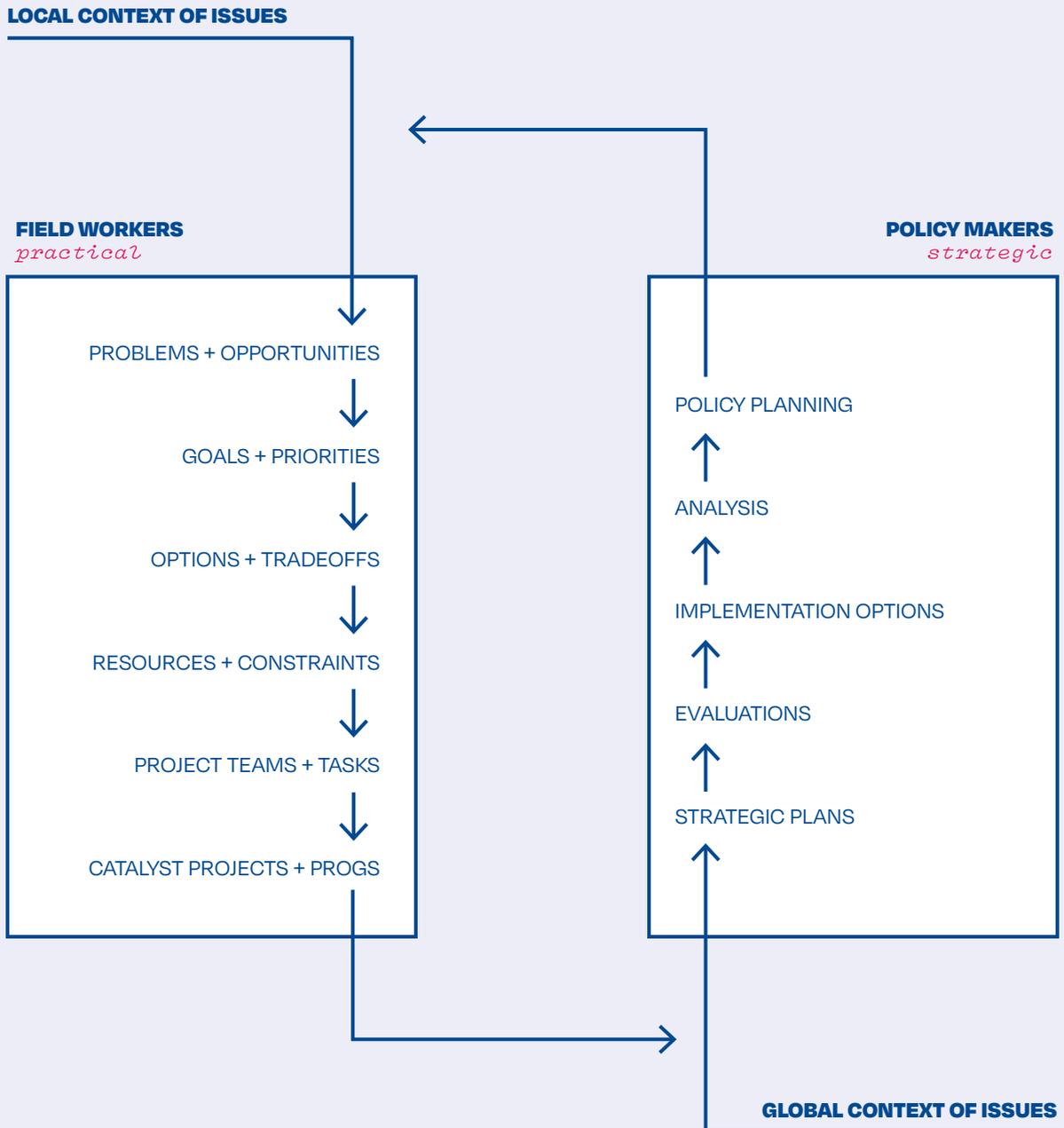


FIGURE 7 Work plan: relating global and local contexts.
Source: Hamdi, 2010, p.66.

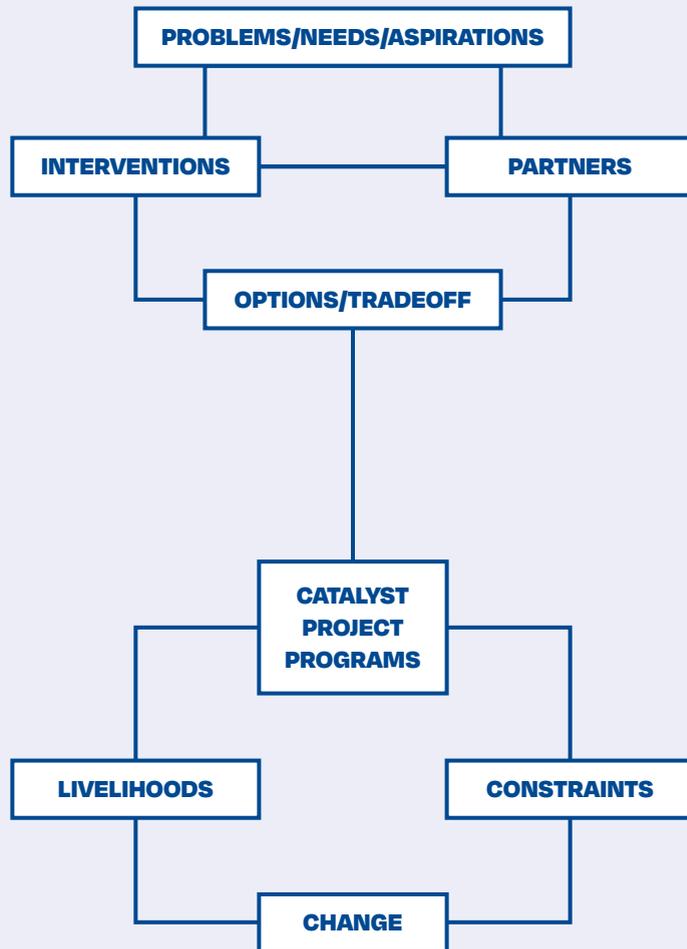


FIGURE 8

Completing the project cycle: Community Action Planning (CAP) and Strategic Action Planning (SAP).

Source: Hamdi, 2010, p.150.

2.1.4

EXCURSUS: SYSTEMS THINKING AND CHAOS THEORY

A systems thinking approach seem to be useful, when trying to capture rather complex structures of stakeholder networks. Furthermore, a game, can be viewed as a system, where players can make decisions within the boundaries of a commonly agreed upon set of rules (Poplin, 2012, p.197).

A number of theories have been developed to work with *complex systems*, finding their application in social and natural sciences: *network theory*, *chaos theory (nonlinear systems theory)*, *adaptive systems (including game theory)*, *emergence theory*, etc. To fully comprehend such theories, sound mathematical background knowledge is required. For the purpose of this thesis, a general understanding of some of the mentioned theories is sufficient. How they relate to the field of urban studies will be exemplified in this chapter. To clarify the used terminology, it is important to define what is understood by using the words *complex* and *system*. Complexity is not merely sensory overload. A city, for example, is not *complex* because of an overwhelming feeling it can evoke. A *systematic* approach to describe the complexity of a city can be through looking at the millions of individual decisions, forming a global unit of local interactions. (Johnson, 2001, p.39)

Edward N. Lorenz (1993), commonly known as the founder of the modern *chaos theory*, tried to describe highly complex systems through deterministic¹⁵ mathematical concepts. Its application is found in various fields, from natural sciences, as well as philosophy and social sciences (*ibid*). In the context of urban studies, *chaos theory* specifically applies to small scale urban interventions and their impacts. The tiniest change in a complex urban system can lead to enormous consequences. Of course, most people would not dare to think about seriously attempting to mathematically calculate the effects of such highly complex processes—but our incapability to compute practical implementations of the *chaos theory*, does not undermine its relevance and legitimacy.

Hamdi (2010) describes chaos theory as "*the hidden order of mess*" (p. 224), and distinguishes it from "*the reality of 'mess'*"—the absence of order. This precise distinction can become important in participatory planning, according to de Carlos' (1971) suggestions:

"Growth and flexibility in an architectural organism are not really possible except under a new conception of architectural quality. This new conception cannot be formulated except through a more attentive exploration of those

15

Chaos is understood to be deterministic, yet incredibly complicated to predict, due to the high complexity of initial conditions and parameter values. Randomness, on the other hand, results from probability, thus being impossible to calculate with certainty, yet to a certain extend predictable through stochastic.

phenomena of creative participation currently dismissed as ‘disorder’.”
(de Carlo, 1971, p.15)

There is a high complexity that genuine participation brings to the table of an already complicated planning process. Many times this appears to be an expensive and time consuming obstacle rather than a constructive force for development. Being able to recognize the hidden order behind chaos, and identifying randomness as such, is as complicated as it can be helpful.

The notions of *disorder* and *order* have also been attempted to be described by the so-called *emergence theory*, a general behavioral concept of humans and animals within a given system, concerned with decentralized and bottom-up thinking. Originally famous for slime mold finding its way through a maze (Johnson, 2001), and structures built by ant colonies (*ibid*), it was no later than 1961, when Jane Jacobs made clear the importance of emergence to urban studies, in her famous book *The Death and Life of Great American Cities*.

For the purposes of this thesis *complex systems* and *chaos theory* seem to be useful to capture rather complex structures of stakeholder networks and further translating them into games and vice versa. However, not everything can be captured using systems, and the approach might only find limited application as the study progresses.

66

***Go to the ant, thou
sluggard;
consider her ways, and be
wise:
which having no guide,
overseer, or ruler,
provideth her meat in the
summer,
and gathereth her food in
the harvest.***

- Proverbs 6:6-8, KJV -

99

2.2

WHAT ABOUT STAKEHOLDERS?

2.2.1

WHO OR WHAT CAN BE A STAKEHOLDER?

As explained earlier, a clear role of all stakeholders within (and adjacent to) a system of development seems to be a needed element, in addition to extended knowledge about a place. In a participatory planning process, knowing the positions of each actor can help to find common ground, share risks and authority, define responsibility and hold mutual accountability during the process (Hamdi & Majale, 2003, as cited in Hamdi, 2010, p.97).

Subsequently, this raises the question of “who are relevant stakeholders?” As commonly understood, stakeholders are individuals, groups, or institutions with interest in a project (Hamdi, 2010; Fischer, 2001). Others, however, suggest to move from an *anthropocentric* approach to a rather *biocentric* one (Hedenus et al., 2018, p.72–75). In includes non-human actors, even beyond animals, considering all existing life, including plants (*ibid*). Applied to a systems thinking approach, this leads to an ethical mindset of *ecocentrism* (*ibid*, p.76). Compared to *anthropocentrism* and *biocentrism*, *ecocentrism* shifts the focus from individually assigned moral standings, to the whole—the ecosystem itself. Thus, individuals only have instrumental values, maintaining the function of the bigger ecosystem (*ibid*, p.76–78).

In the context of development work, there is one key element—a result in the process of learning from global development practices—which again brings forth the importance of true partnership, as stated by Rose Mulokoane (2007) from the Federation of the Urban and Rural Poor (FEDUP), addressing the UN-Habitat Governing Council:

“Don’t call us beneficiaries, [...] don’t call us end-users. We want to be your partners. What we want you to do is to include our inputs in your policy [...] If you don’t include our ideas in your policies, it will be just a beautiful policy [...]”

(Mulokoane, 2007, as cited in Hamdi, 2010, p.92)

The question of who will be included, and consequently, who will be excluded, remains. To complicate this issue further—who is included or excluded intentionally, and who unconsciously (Hamdi, 2010, p.94)? Institutional exclusion, normative social influence, and many other reasons—all implicit to many societal and political structures—play key roles in trying to find answers to this question.

2.2.2

REVIEWING ANALYSIS TOOLS AND METHODS

In the following, four well-known tools/methods for stakeholder analysis are described, supported by illustrations, each shown on the following pages. A potential relevance of systems thinking in stakeholder analysis lies in trying to capture rather complex structures of stakeholder networks.

A common way of mapping actors (see Figure 9) is to divide them into internal (primary) stakeholders, who are directly affected by, or working on a project, and external (secondary) stakeholders, who are indirectly affected (Cleland & Ireland, 2002, as cited in Caputo, 2013, p.75). Further attributes, such as interests, influence impact, and importance can be added (Hamdi, 2010, p.94).

Force field analysis (see Figure 10), where stakeholders are displayed as vectors, describing forces for and against change, is another well-known method for mapping actors, widely used by development practitioners (Thomas, 1985). Starting from a current state of equilibrium, vectors—representing the relative strength of an actor—are *pushing* towards or against a desired point of change (ibid, p.54).

Using an Euler-Venn diagram to categorize actors into different *classes of stakeholders* (see Figure 11), is yet another method (Mitchell et al., 1997; Caputo, 2013). Three overlapping circles—*power*, *urgency* and *legitimacy*, create seven different categories, in which stakeholders are placed, according to their possession of either one or more of the three characteristics (ibid).

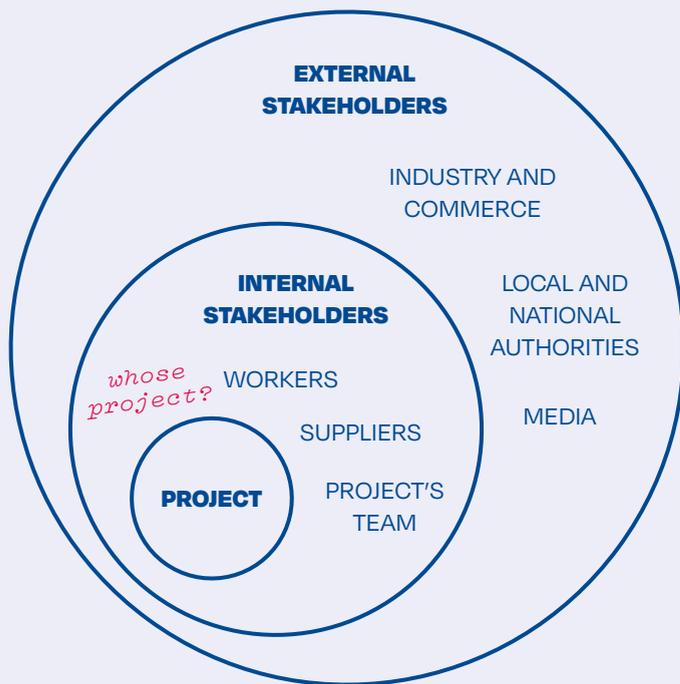
In the so-called *power-interest matrix* (Figure 12) stakeholders are mapped according to their level of interest in a project and the potential power their hold in influencing the processes and outcomes (Johnson et al., 2008; Caputo, 2013).

The relevance of those stakeholder analysis methods in the context of this thesis, can be found in their ability to represent parts of system networks. Yet what all of the methods above partially lack is the ability to show the network itself. They may paint a more or less accurate picture of singular entities (*nodes*), but neglect the interaction (*edges* or *linkages*) of its parts (Colchester, 2020b).

Furthermore, translating humans into stakeholders and representing them as mere graphical or mathematical elements carries the risk of dehumanizing people. Whenever one of the presented analysis tools is applied, one must not forget that behind the illustration are real people. Additionally, the question arises, of whose perspective is such an analysis representing?

Overall, the stakeholder analysis approach remains rather questionable. Critical questions regarding the methods and tools to identify stakeholders are noted in the illustrations on the following pages (Figure 9, Figure 10, Figure 11, Figure 12).

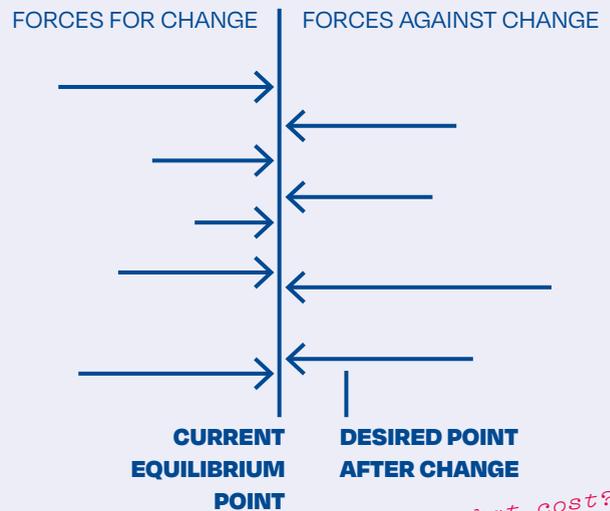
As explained in further detail in the conclusion of the theoretical part (see page 46), a shift to the notion of co-production appears to be more reasonable approach for the thesis at hand.



whose perspective?

*who uses these tools?
...for whom?
...with whom?
with which intentions?*

what change?



at what cost?

FIGURE 9 Internal and external stakeholders.

Source: Caputo, 2013, p.75.

FIGURE 10 Force-field analysis.

Source: Thomas, 1985, p.54.

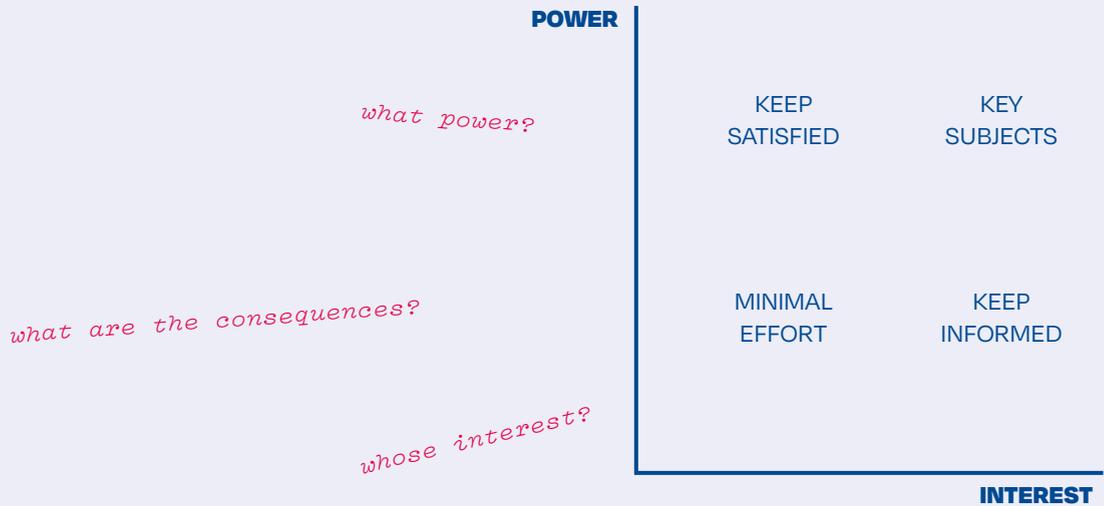
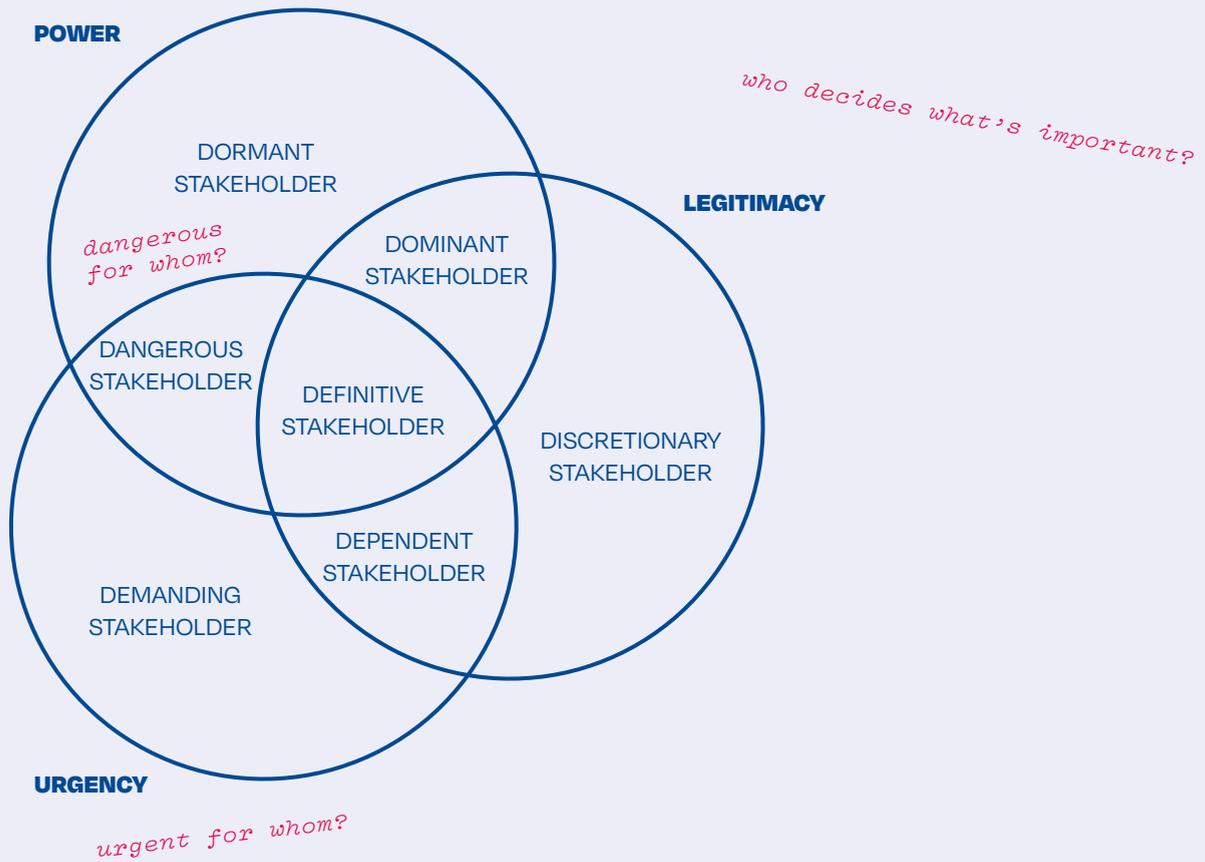


FIGURE 11 **Classes of stakeholders.**
 Source: Caputo, 2013, p.77.

FIGURE 12 **Power-interest matrix.**
 Source: Caputo, 2013, p.76.

2.3

SERIOUS GAMES AND PLAY

2.3.1

GAME THEORY

Game theory is one among many approaches, providing useful model to conceptualize human interaction in daily life, business, economics, international relations, etc. (Paravantis, 2015)

Contrary to intuition, *game theory* is not directly connected to what is commonly understood as a *game* by the broader society. *Game theory* is not a body of theoretical knowledge, which, if applied and implemented, results in tabletop or video games. Rather *game theory* is "the formal study of situations of interdependence between adaptive agents and the dynamics of cooperation and competition" (Colchester, 2020a). In other words, it tries to find answers to complex phenomena of human interaction. There are however, relevant linkages between *game theory* and games (in the meaning of the generally understood term) themselves, in how the thesis at hand is carried out.

Firstly, many games played during the field activities are indeed concerned with human behavior. Games—more specifically *serious games*—can serve as a risk-free environment for active exploration of human interaction in relation to social challenges (Hamdi, 2004, p.136). The matter of *serious games*, as forms of *paidia* and *ludus*, will be explained on the following pages.

Interpreting human interaction as play falls into the scientific field of *game theory*. This notion has proven to be useful in to model interconnected complex networks, from interpersonal relationships to international relations (Paravantis, 2015). This observation becomes relevant, when dealing with stakeholder engagement.

2.3.2

DEFINITION: "PLAYING GAMES"

This chapter elaborates on different notions relevant to get a broader understanding about games and play. The discussed terms can be helpful to gain deeper insight into what games are, what it means to play a game, and how humans interact and identify with games.

The English language distinguishes between the words *game* and *play*. Play can be considered a free activity (Huizinga, 1955). For example, the phrase "playing around", seems to support the interpretation of such a definition. A game, on the other hand, can be viewed as a system, where players can make decisions within the boundaries of a commonly agreed upon set of rules (Poplin, 2012, p.197).

Closely related to the definitions of *play* and *game*, a possible distinction between forms of play can be made through *paidia* and *ludus* (Caillois, 1958, as cited in Hofstätter et al., 2014, p.93). The two terms make it possible to locate every form of human playful interaction somewhere in between the scope these notions provide (Masching, 2019, p.23).

In *The Ludic City: Exploring the Potential of Public Spaces*, Quentin Stevens (2007) offers the following definitions for *paidia* and *ludus*:

"Play as paidia is characterized by diversion, destruction, spontaneity, caprice, turbulence and exuberance. Paidia is human will acting without ethical deliberation. This enhances

one's awareness of being a cause, a free and active force, which shapes reality. Paidia is both a refusal to accept limits and a willful transgression of them. It has no civilizing function. Paidia is improvisatory action, an escape from routine which explores other possibilities of social experience and which develops new social forms."

(Spariosu, 1989, 1997 as cited in Stevens, 2007, p.33)

Whereas *paidia* describes play as an act of freedom to the highest degree, *ludus* is the opposite, rather a set system of rules.

"Ludus is play institutionalized as a game. It follows rules and routines, which are purposely contrived to be tedious and arbitrary. [...] Subordination of individual will to the rules of ludus is imperative. It requires effort, patience and skill. The pleasure of ludus lies in the development and mastery of technique the psychological satisfaction which comes from discovering solutions within a set framework which is external to the demands of instrumental function."

(Stevens, 2007, p.33)

2.3.3

SERIOUS GAMES AND URBAN PLANNING

Most commonly known games are designed solely for the purpose of entertainment. *Serious games* offer additional functionalities, such as pedagogical aspects. (Michael & Chen, 2006, p.4)

The term *serious game* may appear to be a contradiction in itself, as it can be argued that the words *serious* and *game* are mutually exclusive (Susi et al., 2015, p.4). It is challenging indeed, to incorporate play into real-life matters, but if implemented well, many examples show the immense potential that hides behind such an approach.

Although most *serious games* use entertainment as an important aspect, the focus is a different one; for example teaching, research or design (Brković Dodig & Groat, 2019, p.1–5). According to Zyda (2005), *serious games* need to include pedagogy, in addition to story, art and software (in the case of digital games) (p.25–32).

Serious games are not to be confused with the term *gamification*. Gameplay, including its behavioral and experimental qualities is considered an essential element of a game. *Gamification*, on the other hand, uses game-elements outside a game context (Beattie, 2020, p.81). Although Tan Ekim (2017) does not use the exact terms *game* or *gamification* (p.31–33), similar concepts are mentioned in the book *Play the City: Games Informing Urban Development* (ibid), which will be discussed in more detail on the following pages.

“Games hold the promise to turn collective reflection (and civic learning) into fun—into an activity that people

engage in for the sake of civic engagement itself, instead of being driven by the sole objective of safeguarding individual privileges.”

(Devisch et al., 2016, p.84)

Urban planning is used as the main theme in some well-known traditional digital and analogue games (e.g.: *SimCity*, *Machi Koro*). Although urban life is the characteristic for such games, they are designed specifically for entertainment (Poplin, 2011, p.2–3).

Serious games in the context of urban planning are often used as a tool for collaborative decision-making processes (Sanoff, 2000, p.76–79). For this to be implemented, the linkage between reality and the game environment needs to be elaborated. There are multiple ways how the real world connects to *games* or *play*. To understand different links, Ekim Tan (2017) suggests five categories in her book *Play the City: Games Informing the Urban Development*, some of which are mentioned below (p.31–36).

A very common form is highly realistic rendered video games that run their fictional narrative in a place, designed to look like a real place on earth. For example, *Grand Theft Auto III* takes places in New York City. Anybody playing this game for a certain amount of time, will be able to at least partially find their way through New York City upon their first arrival in the city (ibid). Although argued earlier, that games which are designed for the mere purpose of entertainment do not fall into the category of *serious game*, cases such as *Grand Theft Auto*,

Minecraft, and *SimCity* show that a clear distinction is not possible.

Other games can be used to create possible *what-if* situations. Such games can be very powerful in terms of understanding and reflecting on social norms and possible future scenarios. (*ibid*)

Another concept for *serious games* is to directly link game dynamics and/or game mechanics to real life. This could either be implemented through introducing game elements into real life, or vice versa, by taking real life challenges and from it create a game. Nike's running app uses the first of those two suggestions. Users of this fitness app are encouraged to do physical workout and congratulated afterwards. Connecting with others, also using the app makes exercising even more fun, and it has direct impact on one's life. (*ibid*)

Thinking about this concept reverse, will create games from real-life challenges. Enjoying the safe environment of a Game. Anything can be tried out: Making mistakes can be encouraged and testing as well as exploring becomes possible—without anything at stake other than the game itself. (*ibid*)

Abt (1970) and Hamdi (2004) add the following to the potential of using serious games:

“Serious games combine the analytic and questioning concentration of the scientific viewpoint with the intuitive freedom and rewards of imaginative artistic acts [...] In short, serious games offer us a rich field for a risk-free, active exploration of serious

intellectual and social problems.”
(Abt, 1970, as cited in Hamdi, 2004, p.136)

Hamdi (2004) adds, “[t]hey enable us to explore relationships between designed structures (rules) and emergent ones” (p.136).

Using *serious games* in urban planning is a constantly growing approach, which seems to hold great potential. In urban development project phases where public participation (PP) is desired, *serious games* can be a valuable contribution to the process (also commonly referred to as “playful public participation”) (Poplin, 2011, p.4).

A common way to link digital public participation and spatial planning is to use geographical information systems (GIS), often called “PP GIS”. Despite the rapid development of PP GIS tools and platforms in recent years, only a slow development in real-world practical applications can be observed. Possible reasons for this being the case can reach from difficulties of implementation on a technological level, to social and cultural aspects (Krek, 2008, p.1).

2.3.4

SERIOUS CHALLENGES

Despite the promising potential of using *serious games* for participatory urban development, it also comes with certain challenges, some of which are described in this chapter.

Rational ignorance describes the phenomenon that the effort of getting involved in participatory processes usually does not outweigh the small chance of making an actual difference. This can be a serious obstacle for citizens getting involved. Participation can mean having to learn how to read plans, attend meetings, and put time into getting familiar with new technological tools. The personal benefits of getting involved in urban planning processes, compared to the high investment, is in many cases rather low. (Krek, 2008, p.1)

In the case of *rational ignorance*, games seem to play an ambivalent role. On the one hand, they can be subject to *rational ignorance*, and of no interest by people to be played. On the other hand, this is exactly where games—especially ones that are easily accessible and not hard to learn—unfold their potential. The threshold of playing a game is quite low, compared to studying plans or attending meetings. This phenomenon can also be called *the power of participation without participation* (Gladwell, 2005, as cited in Krek, 2008, p.683). It can be argued that this approach is taking advantage of others; and without their awareness luring people into something they would otherwise not do or say. Krek Alenka (2008), describes it as following:

“Games have the power of involving the citizens in the serious processes without thinking and rationalizing about them. They touch them on a subconscious level and attract in a playful, pleasant way.”

(Krek, 2008, p.683)

Another challenge comes with comparing analogue and digital games. A study performed by Kaufman and Flanagan (2016) compares the differences of digital and non-digital games, in terms of experience of the players and the game outcomes. People playing the digital version of the game played with shorter turn length and discussions about strategies were less frequent and not as deep, compared to those who played the non-digital version (*ibid*, p.1). The results of the study show that *“a simple translation between digital and non-digital formats can dramatically change play dynamics, speed of play, depth of player conversation, game success, and, ultimately, learning”* (Kaufman and Flanagan, 2016, p.13).

Referring to digital games, Hofstätter et al. (2014) adds: *“Their mechanisms, combining game and play, have the capacity to enhance motivation, attract interest and retain it for a prolonged period.* (p.100).

In a study on the implementation of online games to encourage public participation in urban planning, Poplin (2011), points out that designers of serious urban games face challenging questions:

“[W]hat are the possible rewards for the participants? How can one create a pleasant virtual environment in which citizens learn about current situations? How can gaining information and learning about planning possibilities and current situations be simulated and created in such a way as to result in pleasurable participation? How can urban planners use the results of the online public participatory process?” (ibid, p.204)

Serious games can be an easily accessible method to co-produce ideas and to “playfully enhance participatory and explorative practices” (Hofstätter et al., 2014, p.100). For a serious game to be successful, Mitchell (2004) suggests that instructions to play the game, as well as the overall structure should be kept simple.

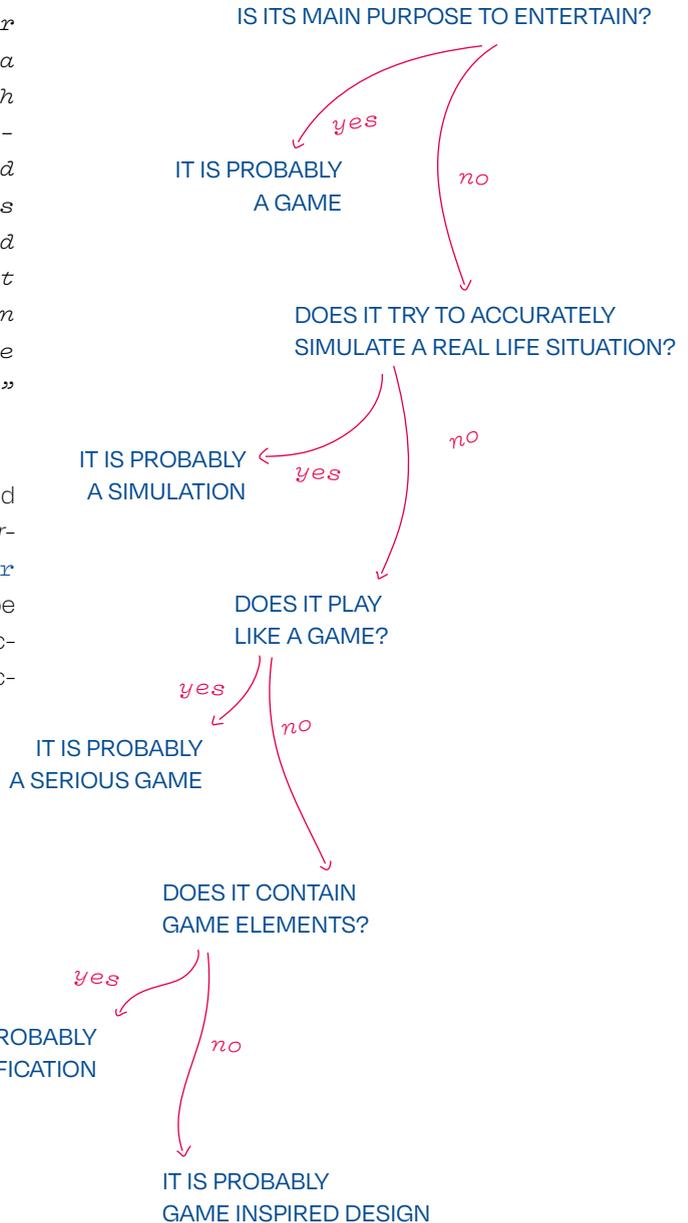


FIGURE 13 Game thinking - What have you got?

Source: Marczewski, 2015.

2.3.5

CONCLUSION: PLAYING TOWARDS CO-PRODUCTION

To conclude the chapter on the theoretical background and transitioning to describing the research context in the following chapter, a short summary of the most relevant theoretical aspects follows.

From the perspective of a development practitioner, Nabeel Hamdi (2004) sees great potential in using games to explore how designed and emergent structures relate to each other (p.136). Referring to Abt (1970, p.11-13), Hamdi (2004) concludes: "In short, serious games offer us a rich field for a risk-free, active exploration of serious intellectual and social problems" (p.136). Tóth (2015) expresses similar thoughts on the potential of serious games, concluding:

"Thus, problem-solving and simulation games in particular are appropriate for the purpose of fostering civic engagement in which a player can experience active participation in a safe and closed environment, learn via models, as well as trial and error and explore different ways of contribution and co-creation."
(Tóth, 2015, p.80)

After critically reviewing the idea of stakeholders and the tools for stakeholder analysis, using this approach appears rather questionable with regards to the intended purposes of this thesis. A shift towards the notion of *co-production* seems more appropriate. The following quotes from Vanessa Watson and Philipp Misselwitz bring forth strong arguments for *co-production*:

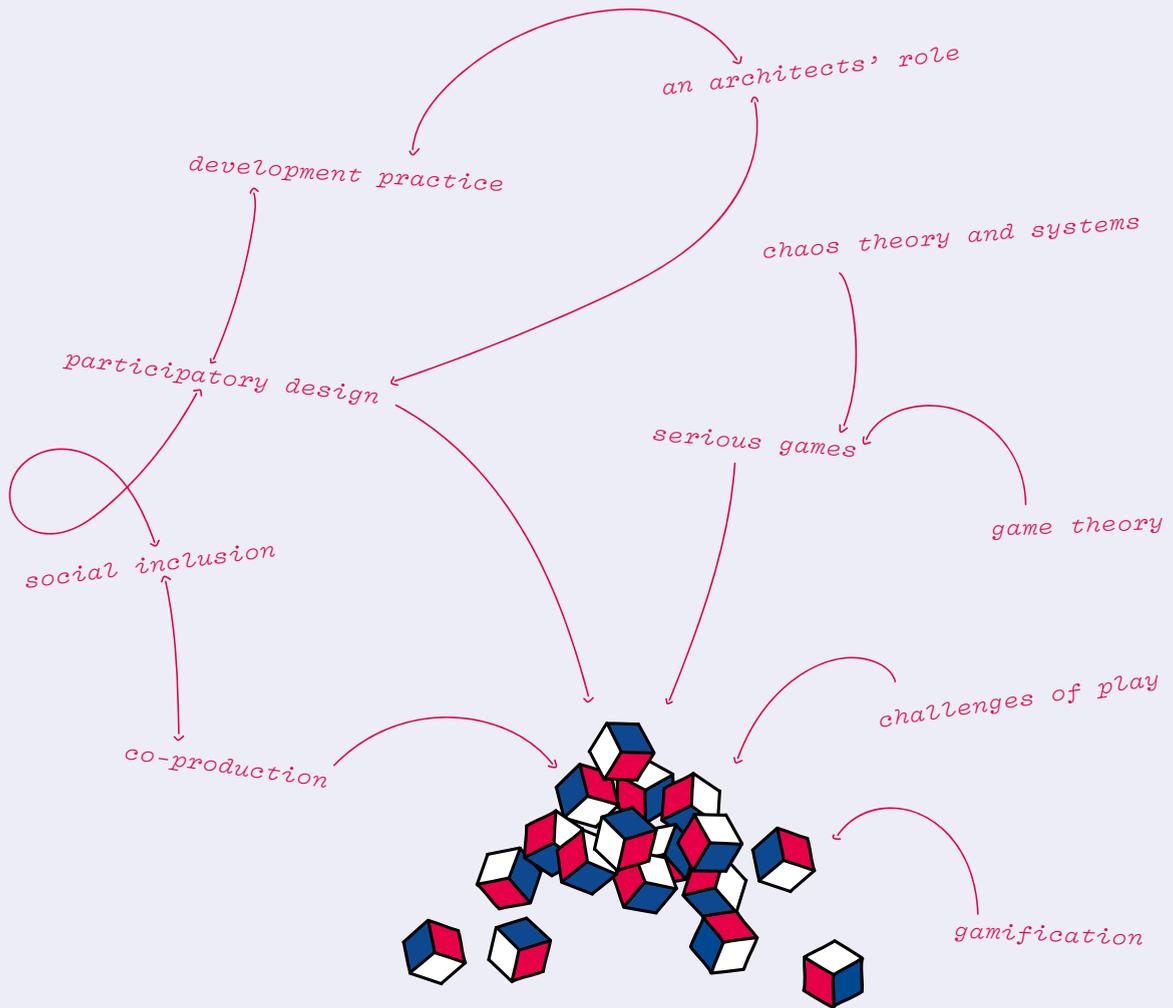
"[C]o-production represents one way in which poor urban communities have been able to secure significant improvements to their living environments under conditions in which governments are either unwilling or unable to deliver land and services."
(Watson, 2014, p.63)

"Cities change and evolve constantly, and they do not act as a coherent entity. They are 'co-produced.' To think of co-production as a concept should help us to think of a sustainable urban policy and action - shaped and developed by constructive conflict."
(Misselwitz, 2016)

"Rather than pretending that ['partnering' between state and civil society] can be 'harmonious' as the notion 'collaboration' suggests, co[-]production partnerships are always characterized by antagonism and conflict."
(ibid)

Considering the statements above, *co-production* appears to be a more inclusive approach for the continuation of the research at hand.

Figure 14 shows an overview of the theoretical concepts covered in this chapter. It illustrates how they can relate to each other to explore games as a design method.



GAMES AS DESIGN TOOLS



- RULES?
- POWER?
- INTERACTION?
- TOOLBOX?

FIGURE 14

Connections of theories and potential questions for using games as design tools.

Source: author, 2021.





**RESEARCH
CONTEXT**

3.1

PRACTICE AND EDUCATION

3.1.1

VOICES FROM PRACTICE

A number of semi-structured interviews¹⁶ were conducted, mostly in the early phases of the project. The goal was to gain deeper understanding about current challenges of organizations working in development: NGOs, CBOs, etc.

Two semi-structured interviews with the following people were held by the author:

- Todd Nicewonger, researcher and project director at Virginia Tech University
- Matthew Moeckel, representing Engineering Ministries International (EMI)¹⁷, Cape Town, South Africa

Additionally, three semi-structured interviews were held together with Mumtaheena Rifat and Robin Eskilsson. We prepared a few questions to initiate the

conversations. Because we have worked together in similar settings in the past we decided to lead the conversation as a team. After each conversation, we discussed the findings and learnings among the three of us. The following people were interviewed:

- Mahmuda Alam, representing the Platform of Community Action and Architecture (POCAA)¹⁸, Bangladesh
- Samia Aboni, representing the United Nations Children's Fund (UNICEF)¹⁹, Bangladesh; Khwaja Fatmi, representing the International Organization for Migration (IOM)²⁰, Bangladesh.
- Claudia Pirchl, Daniel Gutmann, and Evamaria Schmidthaler, all three representing Architektur ohne Grenzen Austria (AoGA)²¹, member of Architecture Sans Frontières International (ASF)²²

¹⁶ Conducting semi-structured interviews is a research method to collect information through conversation. This kind of interview runs according to a set of guiding questions, prepared beforehand by the interviewer. Those questions can help to get the conversation started, and later lead it in a direction relevant to the research topic. However, a semi-structured interview should leave a certain amount of room for the conversation to take unexpected turns and change directions. This might open up doors, which the interviewer could not have thought of, during their time of preparation.

¹⁷ <https://emiworld.org/za>.

¹⁸ <https://www.pocaa.org/>

¹⁹ <https://www.unicef.org/>

²⁰ <https://www.iom.int/>

²¹ <http://www.arch-og.at/>

²² <https://www.asfint.org/en>

A compilation of the most relevant and inspiring quotes from the interviews are presented in Figure 15 on the next page. The main take-aways from the conversations can be summarized as follows:

Local ownership of any intervention seems to be crucial for a development process to be sustainable and inclusive. The role of a design professional seems to vary from project to project, for example: advisor, facilitator. If the design professional is not familiar with the local culture and/or language, a translator seems to be indispensable.

Although many methods/tools for co-production are available, constantly changing social and spatial contexts require adaption of existing methods/tool or entirely new ones. There seems to be a demand for new ways of participation which works across different social landscapes. Using games as a design method sparked general interest and found approval.

In addition to the semi-structured interviews, a number of formal and informal conversations were held to inform this thesis. An exhaustive list of all relevant dialogs in this context can be found in the appendices of this thesis on page 188.

"ASF HELPS CREATE A NETWORK OF PROFESSIONALS, ACADEMICS AND NGOS WHO NEED EXPERTISE. SOME ARCHITECTS ACT MORE AS AN ADVISORY TO SUPPORT THE LOCAL PROFESSIONALS."



"WE HAVE OUR OWN SET OF TOOLS WE USUALLY USE FOR COLLABORATION. BUT WE ARE CREATING NEW METHODS FOR EACH PROJECT AND CONTEXT."

00:00



"AN ESSENTIAL ACTOR IN ALL THE PROJECTS IS THE MAJHI - ROHINGYA GROUP LEADER AND TRANSLATOR ACTING AS A BRIDGE BETWEEN THE COMMUNITY AND OUR TEAM."

00:00



Mahmuda Alam (POCAA, Bangladesh)



"...WE DON'T WANT TO MAKE THE COMMUNITY DEPENDENT. WHEN THE FUNDING IS GONE, THEY NEED TO BE SELF SUSTAINED. WE CAN TRAIN AND TEACH THEM TECHNIQUES WITH WHICH THEY CAN BUILD THEIR OWN STRUCTURE."

00:00



Samia Aboni (UNICEF, Bangladesh)
Khwaja Fatmi (IOM, Bangladesh)

"PROJECTS IN KENYA CONTINUED THROUGHOUT THE PANDEMIC DUE TO STRONG CONNECTIONS AND COMMUNITY AT SITE IN KENYA."

00:00



"I AM VERY INTRIGUED BY THAT GAME ASPECT, AND I AM VERY CURIOUS AS WELL."

"WE CAN NOT TRAVEL EVERYWHERE, BUT WHEN YOU ARE CONNECTING DIGITALLY IT IS EASIER TO REACH MORE PEOPLE."

00:00



FIGURE 15 Quotes from interviews that inspired and informed the research project.

Source: author, 2021.

00:53

Todd Nicewonger (VT, US)



"DIGITAL STORYTELLING IS USED AS A COLLABORATION AND MAPPING TOOL IN NAIROBI!"

"...AN ACTIVITY THAT SHAPES THE HOW OF PARTICIPATION, SOMETHING THAT WORKS ACROSS DIFFERENT SOCIAL LANDSCAPES."

01:03



Matthew Moeckel (EMI, South Africa)



"IT IS IMPORTANT TO HAVE LOCAL OWNERSHIP OF THE PROJECTS, MAY BE LEAVE PARTS OF THE PROJECT TO CONTINUE."



"THAT'S ACTUALLY WHERE A GAME HAS ACTUALLY GOOD OPPORTUNITY AND POTENTIAL, AS IT ALLOWS FOR COMMUNICATION AND REALIZATION OF VALUE."

00:45



"FOR START, INTRODUCING SOCIO-CULTURAL CONTEXT, CLIMATE CONDITIONS, LOCAL MATERIALS, CAPACITY SKILLS ETC IS IMPORTANT AS IT ALL CONNECTS IN A CRISSCROSS WAY, LIKE A WELL STITCHED FABRIC."



"...THINK ABOUT BRIDGING THE GAP BETWEEN LARGE (INTERNATIONAL) AND SMALL (LOCAL NGOS)."

01:47



"...FIND THE DIGITAL TOOLS THAT THE COMMUNITY IS ALREADY USED TO, START WITH THOSE."



"PROVIDING SUPPORT IS EASY REMOTELY, FACILITATION IS DIFFICULT, THE ROLE OF LOCAL ACTORS IS IMPORTANT!"



"ARCHITECTS DESIGNED AND PROVIDED A CHECKLIST, SO EVEN WHEN ARCHITECT WAS NOT INVOLVED IN LATER PHASES, THE CHECKLIST HELPED THE COMMUNITY TO CONTINUE WITH THE PROJECT!"

00:58



Claudia Pirchl (AoGA - ASF Austria),
Daniel Gutmann (AoGA - ASF Austria),
Evamaria Schmidthaler (AoGA - ASF Austria)

3.1.2

LOCAL AND INTERNATIONAL PARTNERS

The research at hand is carried out in collaboration with two architectural design courses: *Reality Studio* (Chalmers University of Technology [CTH]), and *Urban Citizen Studio* (University of Pretoria [UP]). The aim of this thesis project aligns well with the visions of *Urban Citizen Studio*, and *Reality Studio*, working towards socio-economic and spatial transformation through community engagement. Before describing both courses in further detail on the following pages, an overview of the collaboration is shown in Figure 16.

As shown on a world map (Figure 17 on page 58), *Reality Studio 2021* established partnerships with different collaborators around the globe. Students taking the course formed teams and developed projects in collaboration with local actors, which are:

- Beirut, Lebanon: American University of Beirut
- Buenos Aires, Argentina: Fundación Pro Vivienda Social, TECHO, Mujeres 2000, Media Pila
- Dhaka, Bangladesh: Platform of Community Action and Architecture (POCAA-BD)
- Kisumu, Kenya: Zingira Community Craft
- Pretoria, South Africa: University of Pretoria, Unit for Urban Citizenship, *Play Africa*

In addition to the specific project development collaborations, three partnerships are formed between *Reality Studio* and:

- Barcelona, Spain: Universitat Internacional de Catalunya (UIC)—Master of International Cooperation Sustainable Emergency Architecture
- Melbourne, Australia: Royal Melbourne Institute of Technology (RMIT)
- Zurich, Switzerland: Architecture for Refugees

In the case of Pretoria, a subdivision according to three different project sites can be made: Melusi, Mamelodi, Woodlane Village. This distinction is important, because of urban and socio-economic differences of the locations, as well as the fact that three different project teams are working at those sites. The project sites are described in further detail on page 70.

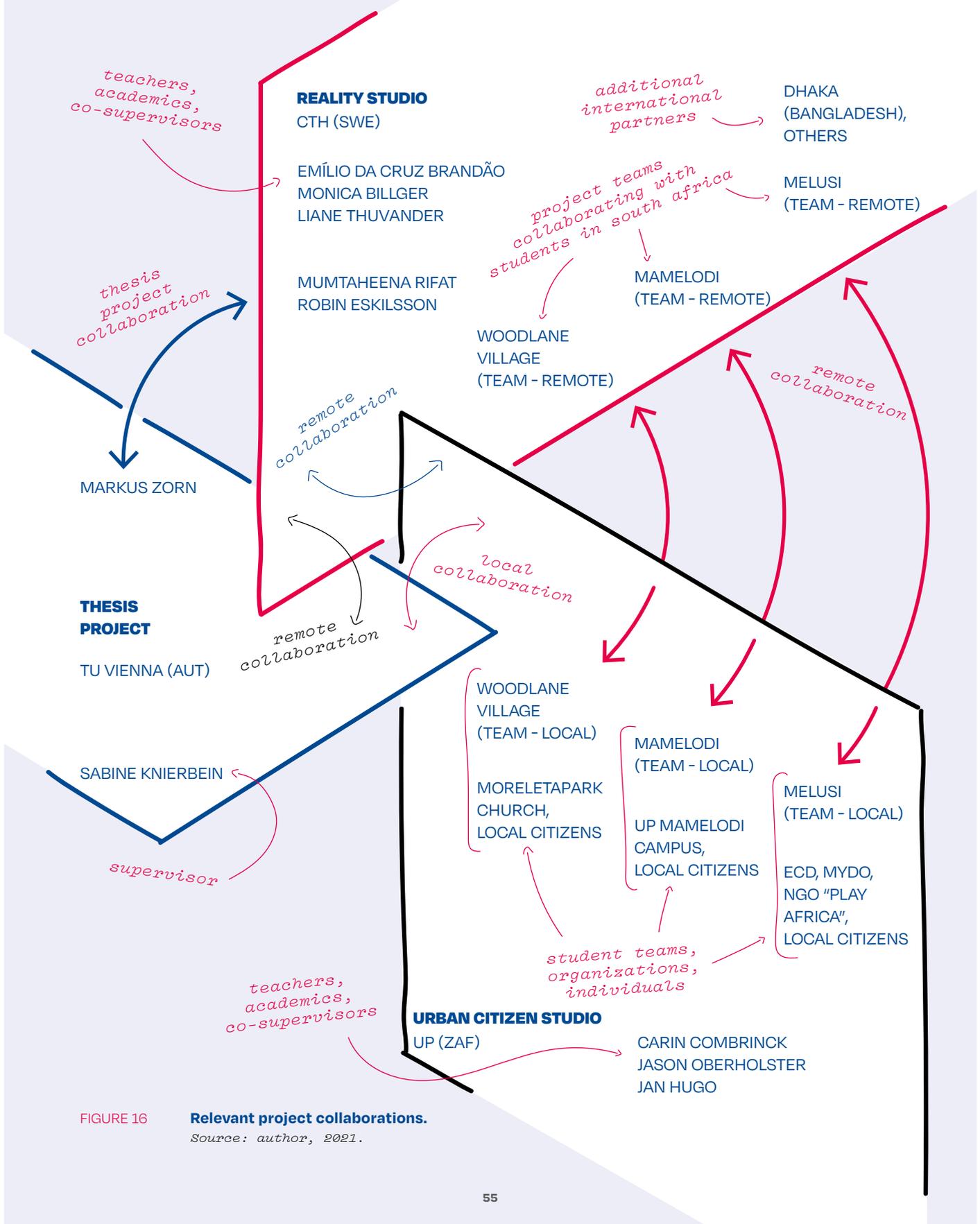


FIGURE 16 Relevant project collaborations.

Source: author, 2021.

3.1.3

REALITY STUDIO (CTH)

*Reality Studio*²³ is an architectural design course within the *Architecture and Planning Beyond Sustainability* Masters Program at CTH, Gothenburg, Sweden.

The aim of this studio is to equip students with important skills and methods in architecture and design, which are valid in any situation of urban transformation at different levels and scales (e.g. urban structures, infrastructure, buildings, technical support systems, detailed construction elements, products within the built environment).

Reality Studio works in close cooperation with different stakeholders, such as local communities, NGOs, universities, governmental institutions and global institutions (e.g. UN-Habitat). Taking place in different parts of the world, always in highly challenged contexts, the perspective of *Reality Studio* stays the same:

“[T]he development and implementation of aesthetic, affordable, socially and culturally appropriate, energy and material efficient, healthy and user-friendly, always innovative design solutions that support dignified human everyday life.”

(<https://student.portal.chalmers.se>)

Furthermore, the course tries to integrate the education in architecture and urban planning with

development research, creating a good foundation for the students and their future work. At the same time, students are making a valuable contribution to research and investigations which can be used for implementing future projects.

For the upcoming course in 2021 the focus will be on “Cross-Cultural Collaborations: Extreme Environments during Pandemics” dealing with the message of “Designing for Dignity” (da Cruz Brandão, 2020, p.1-2).

Concerning the thesis at hand, several games will be developed as part of the teaching methodology used to establish cross-cultural and intercultural partnerships. Students taking the course will work with individuals, organizations, and academic institutions around the globe, one of which is the University of Pretoria.

Since it adds significant understanding of the courses and value to the purpose of the research at hand, it seems important to mention that I successfully finished *Reality Studio* myself in 2019/20, talking place in Kisumu, Kenya.

²³

https://student.portal.chalmers.se/en/chalmersstudies/courseinformation/Pages/SearchCourse.aspx?course_id=27172&parsergrp=3.

3.1.4

URBAN CITIZENSHIP STUDIO (UP)

The Unit for Urban Citizenship²⁴ (UUC) (part of UP) “strives to develop the scholarship of civil engagement and participatory development within the context of a complex emergent African urbanism [...]” (<https://www.up.ac.za/architecture/article/2933010/Urban-Citizenship>). It aims at embedding a culture of urban citizenship, characterized by responsibility and collaboration between students and local communities (*ibid*). Further aims of the UUC are, “to facilitate transdisciplinary research on urban citizenship; to focus community engagement and strengthen social impact through evidenced-based multi-scalar interventions [...]; and [to] give effect to the UN Sustainable Development Goals. These aims will be achieved through inter-faculty liaison and alignment of existing curricular activities to research projects and community engagement initiatives aimed at supporting national development and sustainable development goals” (*ibid*).

“The unit liaises with the faculties of UP and research centers around transdisciplinary research projects, curriculum collaboration and intervention projects, coordinating curricular engagement with community participants over appropriate time spans, and ensuring that these engagements are mutually understood and reciprocally significant. The UUC assists with ethical

monitoring, educational rigor and re-search consistency as well as institutional alignment with UP’s policies of Community Engagement and Social Responsibility, ensuring that the role of UP as anchor institution is to be served and strengthened through these endeavors.”

(<https://www.up.ac.za/architecture/article/2933010/Urban-Citizenship>)

Dr Carin Combrinck, director of the UUC and senior lecturer at UP, is leading the course *Urban Citizen Studio*. The structure of the course is well connected with local communities, informal and formal educational institutes, and NGOs.

As mentioned earlier, the *Urban Citizen Studio* serves as one of the remote partners of *Reality Studio* which provides the chance to test games locally, while simultaneously having remote observers of the process.

24

<https://www.up.ac.za/architecture/article/2933010/Urban-Citizenship>.



FIGURE 17 Geographical representation of project collaborations.
Source: author, 2021.



• **DHAKA**

MELUSI

UP

MAMELODI

WOODLANE
VILLAGE

PRETORIA

JOHANNESBURG

PLAY AFRICA

• **MELBOURNE**

3.1.5

WORKSHOP ABOUT METHODS AND GAMES

Reality Studio teachers and examiners provided the opportunity to test a toolbox including methods and games for remote collaboration. The aim was to re-appropriate and further develop the toolbox, and capture *how* the provided methods and games are used.

Mumtaheena Rifat and Robin Eskilsson, have studied and dissected the following participatory design toolkits (as part of their thesis project²⁵) which provided the needed foundation for co-creating and testing the toolbox:

- *Participatory Incremental Urban Planning Toolbox: A Toolbox to support local governments in developing countries to implement the New Urban Agenda and the Sustainable Development Goals - Edition for fast growing cities* (UN-Habitat, 2020).
- Chapter *Toolkits* from *The Placemaker's Guide to Building Community* (Hamdi, 2010, p.69-76).
- ASF Participate website²⁶ (Architecture Sans Frontières-UK [ASF-UK], n.d.).
- *Participatory Design Handbook - A Collaborative Approach to Address Community Based Challenges* (Ferguson & Candy, 2014).

From those design toolkits, the methods which were considered most suitable for the stage of the students projects were chosen and presented to the students in *A collection of collaborative methods and serious games for remote collaboration in community development projects, Draft v.1.0*²⁷ (Eskilsson et al., unpublished).

The toolbox includes:

Collaborative methods:

- Getting to know each other
- Transect walk
- Semi-structured interviews
- Drawing with children
- Images from my neighborhood
- Mapping with community
- Harvest mapping
- Mapping strengths and weaknesses
- Stakeholder analysis
- Communication plan
- Expectations

Serious games playful activities:

- Unfolding Stories²⁸
- Skribble²⁹
- Sketchy Plans

²⁵ Master Thesis: *Local-Non-Local: Re-appropriating Co-Creation Methods for Remote Collaboration* (Eskilsson and Rifat, 2021).

²⁶ <http://www.asfparticipate.org/>

²⁷ See document in appendices: *Toolbox Workshop Week II*.

²⁸ <https://unfoldingstories.app/>, <https://info.unfoldingstories.app/>

²⁹ <https://skribbl.io/>

Each project team (eight in total, at this stage of the course) had to choose three methods and one game. The aim was to use them throughout the following weeks, to test and re-appropriate them to their project needs, as well as the remote collaborative process with their project partners abroad. An online survey³⁰ about the workshop was used to evaluate the workshops contribution to the different project processes, and to gain general information about the collaboration typologies and project partners. The results are shown in Figure 18 on the following page.

Results from the qualitative part of the questionnaire show that the structure in which the three games were presented, appeared to be more helpful than the games themselves. Others noted that they appreciated seeing different examples of games which can be used in co-design processes. Most groups seemed to agree that the instructions for the games were clear.

A specific example of a *Reality Studio* project group implementing games is a *Kahoot*³¹ session with children from Bangladesh.³² The goal was to establish a relationship and build trust between the *Reality Studio* students and the children from Dhaka, ages five to seventeen. Mahmuda Alam (POCAA) played an important role in implementing the game,

as she served as a local facilitator and translator.

The game was set up as a quiz, with general questions about Sweden and Bangladesh, aiming at mutual learning about each other's cultures. In a short, rather informal conversation with the *Reality Studio* students, they shared how quickly they started to connect with the children.

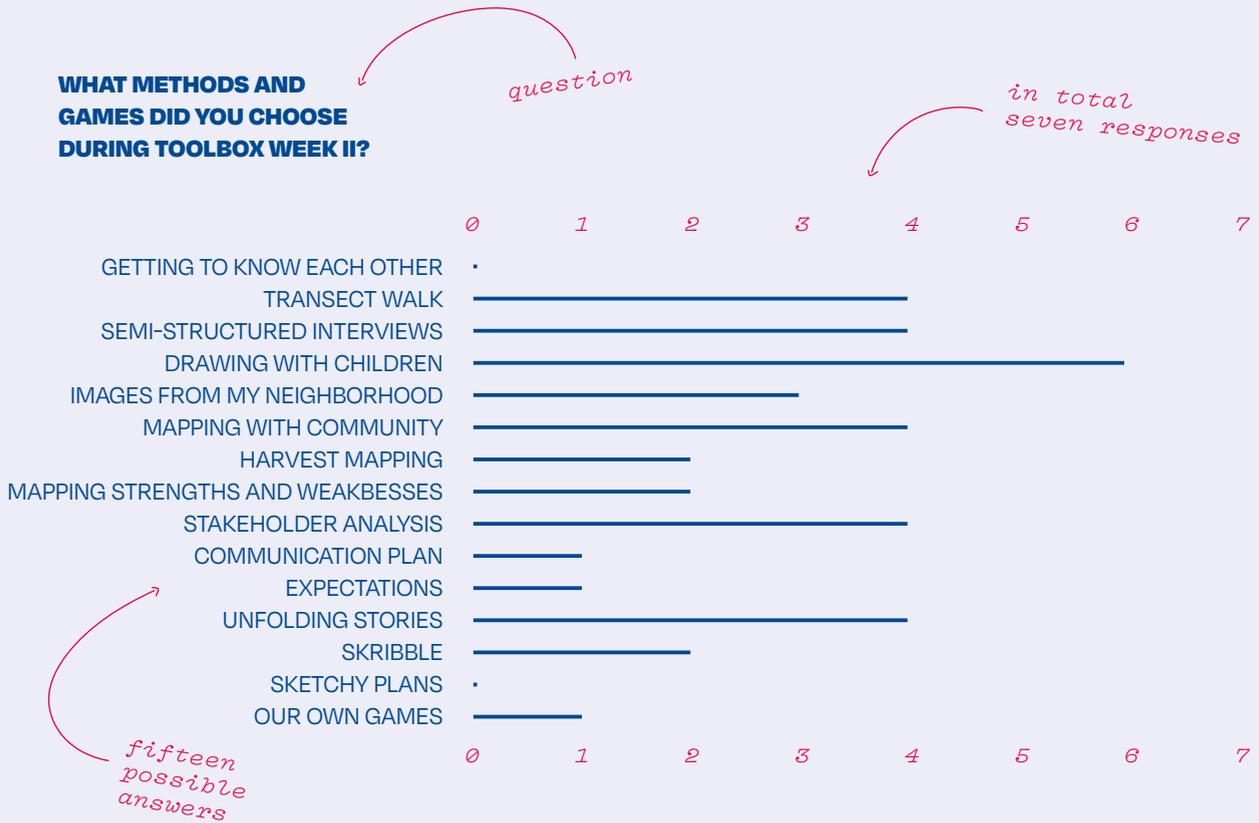
The Dhaka team mentioned that, as they were playing the game with the children and started to share about their personal experiences living in Sweden, the children began to open up and share what life as a child in Dhaka is like. In this case, the game appeared to have served as an interface for creating conversation around certain themes that occurred in the game.

30 Survery results from *Toolbox week II* are shown in Figure 18 on page 62.

31 <https://kahoot.com/>

32 All questions asked in the game can be found in the appendices.

WHAT METHODS AND GAMES DID YOU CHOOSE DURING TOOLBOX WEEK II?



WHO ARE YOU COLLABORATING WITH TO GET TO KNOW THE CONTEXT? (CHECK ALL THAT APPLIES)

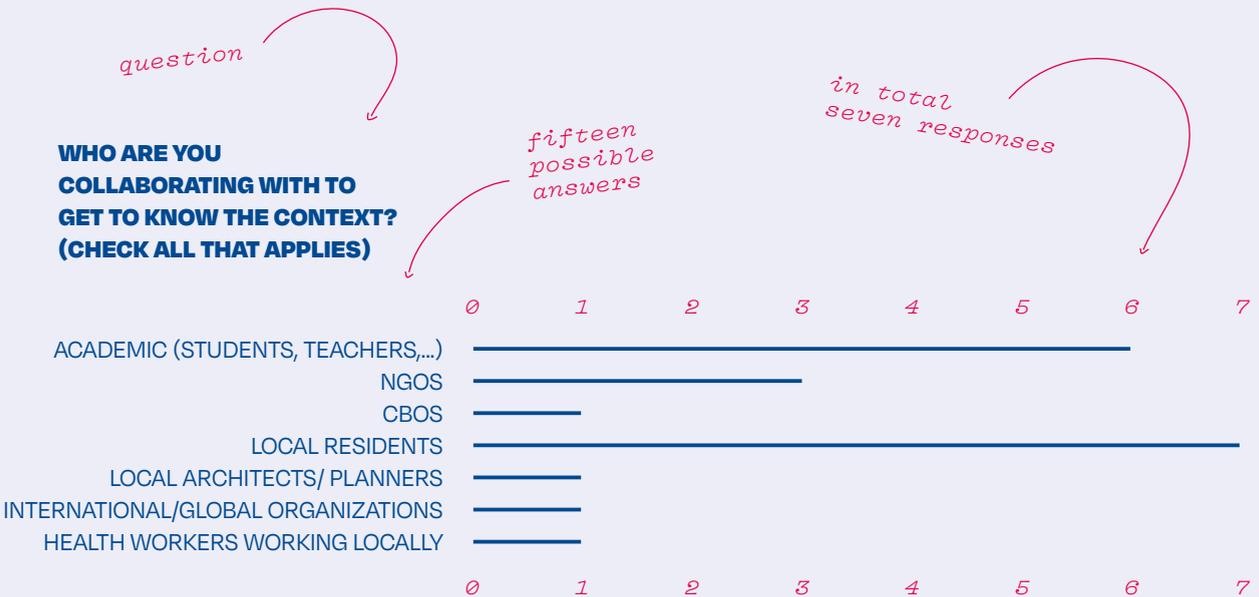


FIGURE 18 Selected results from the survey about the *Reality Studio* workshop *Toolbox week II*.

Source: Eskilsson, Rifat, author, 2021.

66

*I have preferred to use
placemaker in my title
(rather than architect,
planners or experts)
because it is inclusive of all
who make and sustain the quality
of human settlements,
including principally the people
and communities
who are the inhabitants.*

- Hamdi, 2010, p.xviii -

99

3.2

SOUTH AFRICA

3.2.1

“SLUMS SHALL BE DEMOLISHED”

South Africa has had a turbulent history. Countless racial and social struggles, often caused by colonial forces, are shaping the country until this day. A brief overview about South Africa’s history is shown in Figure 20 on page 68. For the purpose of this thesis, a short analysis of socio-spatial conditions (with a focus on segregated urban areas) is given, and notions about upgrading *slums* (and the role of architects within this challenge) are discussed.

The importance of the spatial context of the work at hand, requires an exploration of the word *slum*. The term *slum* is just one, among many words describing similar urban fabric and socio-economic situations of segregated and marginalized people who live in poverty to a certain degree. Although variant terms (e.g.: *informal settlement*, *squatter camp*) usually do not describe the same notion, they are commonly—and often inaccurately so—used interchangeably. At the same time, depending on the geographical and social context, the word *slum* can take on different meanings. For example, in countries with a strong British colonial history, the term *slum* is used to describe conditions that elsewhere would be referred to as *informal settlements*. In Kisumu, Kenya, *slums* officially describe an mostly unplanned settlement, accommodating the urban poor. (Huchzermeyer, 2011, p.5–6)

Rather than finding a clear definition of the word *slum* or other related terms (Lilford et al., 2019, p.2), it seems more relevant to be aware of the difficulty to find a general agreement on how to define or identify a *slum*. As Marie Huchzermeyer (2011) in her book *Cities with ‘Slums’—From informal settlement eradication to a right to the city in Africa*, says, “it is not the word, but an entire paradigm that needs to be confronted” (p.10). Furthermore, Huchzermeyer provides a detailed political and social discussion of *slums* in Africa. She relates it to the concept of the *right to the city*, and describes global misunderstandings about *slum eradication* (ibid). For example, “*Slums shall be demolished*”, it is written in *The Freedom Charter* from 1955, South Africa (The Congress of the People). Regardless of the motivation behind such phrases, Huchzermeyer (2011) describes well how this wording and its interpretations can imply negative attitudes towards *slums* (p.5–11).

Another term used in the work at hand is *township*. This term in a South African context refers to monotonous and mono-functional (mostly suburban) areas. Such are often characterized by extreme socio-economic dependencies and a fluctuating relationship between formality and informality.

3.2.2

URBAN INFORMALITY

A brief overview of urban informality is given by laying out a sequence of the following five quotes:

“Informal settlements are a response to a formal system that is exclusionary. Individuals and families who migrate to cities for work or who are displaced from other neighborhoods often have no option but to create a subsidiary housing system to meet urgent needs that the formal housing system has failed to meet.”

(de Vos et al., 2019, p.7)

“Informal, spontaneous forms of urbanisation are constituent to Southern African cities. While many believe that these informal settlements will over time be systematically replaced with formalised conditions, some of the developmental trends in Southern African cities prove otherwise.”

(Hugo, 2021, p.1)

“While these informal settlements can be considered as unplanned and unstructured, we must acknowledge our own limited understanding of these spaces.”

(Dovey, 2015, as cited in Hugo, 2021, p.2)

“Resultantly it is important to acknowledge that informal urbanism is rather more complex structured organisations

with a direct feedback between place-making and user intent, and the manifestation thereof. One should rather consider it as a complex system of entities and relationships, that involve both formal and informal processes.”

(Okyere & Kita, 2015, as cited in Hugo, 2021, p.2)

“Urban informality as a term is defined by its opposite, urban formality; or, put differently, informality is defined by what it is not (not formal, not planned, not taxed, not regulated, etc.), rather than what it is.”

(Durand-Lasserre, 2003, as cited in Huchzermeyer, 2011, p.70)

Concluding from those statements the following can be said: Acknowledging that only limited knowledge of informal urban space is available, in addition to the apparent impossibility to capture their complexity, leaves the question: Is authentic co-production possible, and what methods would enable it?

Figure 19 is an attempt to relate formal and informal processes of building structures by pointing out how they can take place in opposite directions of their sequence.

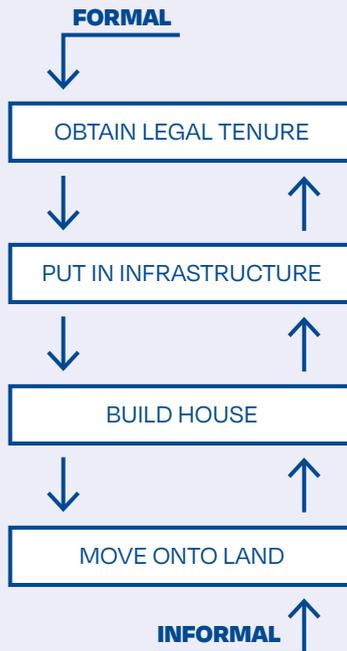


FIGURE 19

An attempt to trace the process of how formal and informal structures come into being.

Source: Ruth McCleod, as cited in Hamdi, 2010, p.121. [edited]

3.2.3

THE POTENTIAL ROLE OF ARCHITECTURE

“Our discipline can either be complicit with, or mobilise against, the currency of socio-political power. Disentangling the discourse and biased perspectives surrounding informal-settlement upgrade can help the profession start meaningfully engaging with informal urbanism.”

(Combrinck, 2017a, p.43)

In order to ensure meaningful engagement with processes of informal urbanism, knowledge (among other aspects) is needed, which is *“almost by definition, always incomplete or out of date”* (Huchzermeyer, 2011, p.75).

Combrinck (2017b) suggest that *“[a]rchitecture does indeed possess the ability to engage in the political realm, impacting on urban spatial relations through processes of collaboration”* (p. 38). Hamdi (2010) describes a potential implementation of this idea:

“In all cases, we begin to identify possible partners at the earliest stage—between community groups, between formal and informal private enterprise, between all and respective government departments. We will be doing our stakeholder analysis of risk and comparative advantages [...] while at the same time building a sense of trust and cooperation”

(p.67).

Taking the role of a co-producer as of an urban professional simultaneously constitutes the point of departure and describes one of the goals for the thesis at hand.

100 000+ BC → "MODERN HUMANS HAVE LIVED AT THE SOUTHERN TIP OF AFRICA FOR MORE THAN 100 000 YEARS [...]"



"THE KHOEKHOEN (THE HOTTENTOTS OF EARLY EUROPEAN TERMINOLOGY) WERE PASTORALISTS WHO HAD SETTLED MOSTLY ALONG THE COAST, WHILE THE SAN (THE BUSHMEN) WERE HUNTER-GATHERERS SPREAD ACROSS THE REGION!"



2000 YEARS AGO

1652



"THE FIRST EUROPEAN SETTLEMENT IN SOUTHERN AFRICA WAS ESTABLISHED BY THE DUTCH EAST INDIA COMPANY IN TABLE BAY (CAPE TOWN) IN 1652. CREATED TO SUPPLY PASSING SHIPS WITH FRESH PRODUCE, THE COLONY GREW RAPIDLY AS DUTCH FARMERS SETTLED TO GROW CROPS. SHORTLY AFTER THE ESTABLISHMENT OF THE COLONY, SLAVES WERE IMPORTED FROM EAST AFRICA, MADAGASCAR AND THE EAST INDIES."

European contact

1770+



"FROM THE 1770S, COLONISTS CAME INTO CONTACT AND INEVITABLE CONFLICT WITH BANTU-SPEAKING CHIEFDOMS SOME 800 KM EAST OF CAPE TOWN. A CENTURY OF INTERMITTENT WARFARE ENSUED DURING WHICH THE COLONISTS GAINED ASCENDANCY OVER THE ISIXHOSA-SPEAKING CHIEFDOMS. IN 1795, THE BRITISH OCCUPIED THE CAPE AS A STRATEGIC BASE AGAINST THE FRENCH, CONTROLLING THE SEA ROUTE TO THE EAST."

first conflicts



1806 → "IN 1806, BRITAIN REOCCUPIED THE CAPE. AS THE COLONY PROSPERED, THE POLITICAL RIGHTS OF THE VARIOUS RACES WERE GUARANTEED, WITH SLAVERY BEING ABOLISHED IN 1838."

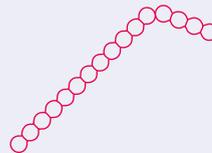


FIGURE 20

A historical snapshot of South Africa.

Source: Huchzermeyer, 2011, p.8; Al-Khalil, 2013; <https://www.gov.za/about-sa/historyp>; <https://www.nicd.ac.za/>.

1948 → "[...] THE PRO-AFRIKANER NATIONAL PARTY (NP) CAME TO POWER WITH THE IDEOLOGY OF APARTHEID, AN EVEN MORE RIGOROUS AND AUTHORITARIAN APPROACH THAN THE PREVIOUS SEGREGATIONIST POLICIES.



the rise of apartheid



freedom charter

"THE ANC'S FREEDOM CHARTER (CONGRESS OF THE PEOPLE, 1955) WAS BANNED DURING THE APARTHEID ERA."



1955

1994



"SOUTH AFRICA HELD ITS FIRST DEMOCRATIC ELECTION IN APRIL 1994 UNDER AN INTERIM CONSTITUTION. THE ANC EMERGED WITH A 62% MAJORITY. SOUTH AFRICA WAS DIVIDED INTO NINE NEW PROVINCES TO REPLACE THE FOUR EXISTING PROVINCES AND 10 BLACK HOMELANDS."

south africa's first democratic government



new flag



2010 → "THE 2010 FIFA WORLD CUP WAS ONE OF THE LARGEST SPORTING EVENTS IN HISTORY. LEADING UP TO IT, THERE WERE MANY SOCIAL, ECONOMIC, AND POLITICAL ISSUES THAT WERE BOUND TO MAKE AN IMPACT ON THE TOURNAMENT."



"NELSON MANDELA DIES AT HOME IN JOHANNESBURG." ← **2013**



the global pandemic hits the country

2020



"THIS MORNING, THURSDAY MARCH 5, THE NATIONAL INSTITUTE FOR COMMUNICABLE DISEASES CONFIRMED THAT A SUSPECTED CASE OF COVID-19 HAS TESTED POSITIVE."

t.b.c.



3.3

PROJECT SITES

3.3.1

OVERVIEW

Three different areas around Pretoria, all of which are chosen project sites for the *Urban Citizen Studio*, form the specific geographical context of the study at hand. All three locations differ strongly in urban appearance, size, population, urban typology, and social structure. Mamelodi is commonly understood as a *township*, whereas Melusi and Woodlane Village can be called *informal settlements*.

A short introduction to each site is given on the following pages, including maps, satellite images, and photographs. The outlines inscribing certain the areas as shown in the maps can help to get a rough understanding of their expansions. It needs to be considered that they are subject to constant transformation as well as interpretation of urban space.

The following chapters are merely showing an overview of the project sites. How and where the field study activities took place is described on part four of this thesis (see page 101).



PHOTO 1

A casual afternoon in Melusi.

Source: author, 2021.

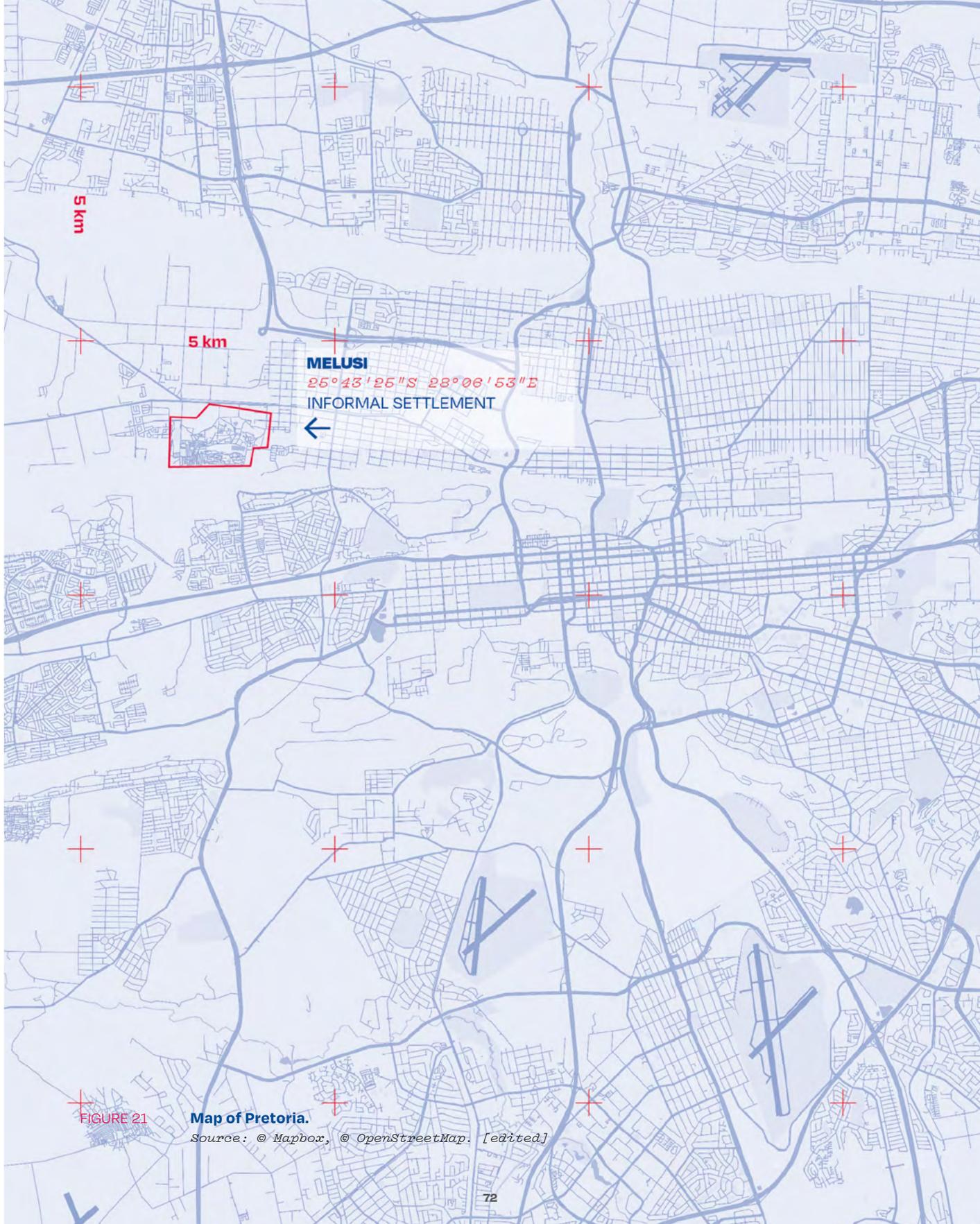
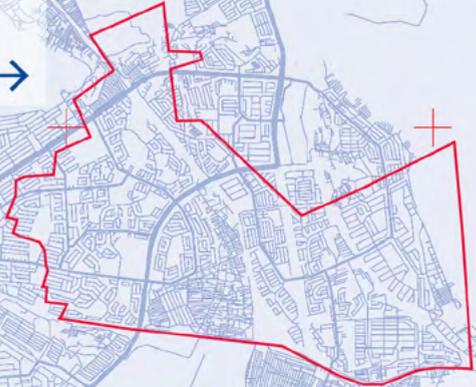


FIGURE 21

Map of Pretoria.

Source: © Mapbox, © OpenStreetMap. [edited]

MAMELODI
25°43'18"S 28°23'55"E
TOWNSHIP



WOODLANE VILLAGE
25°49'51"S 28°18'28"E
INFORMAL SETTLEMENT



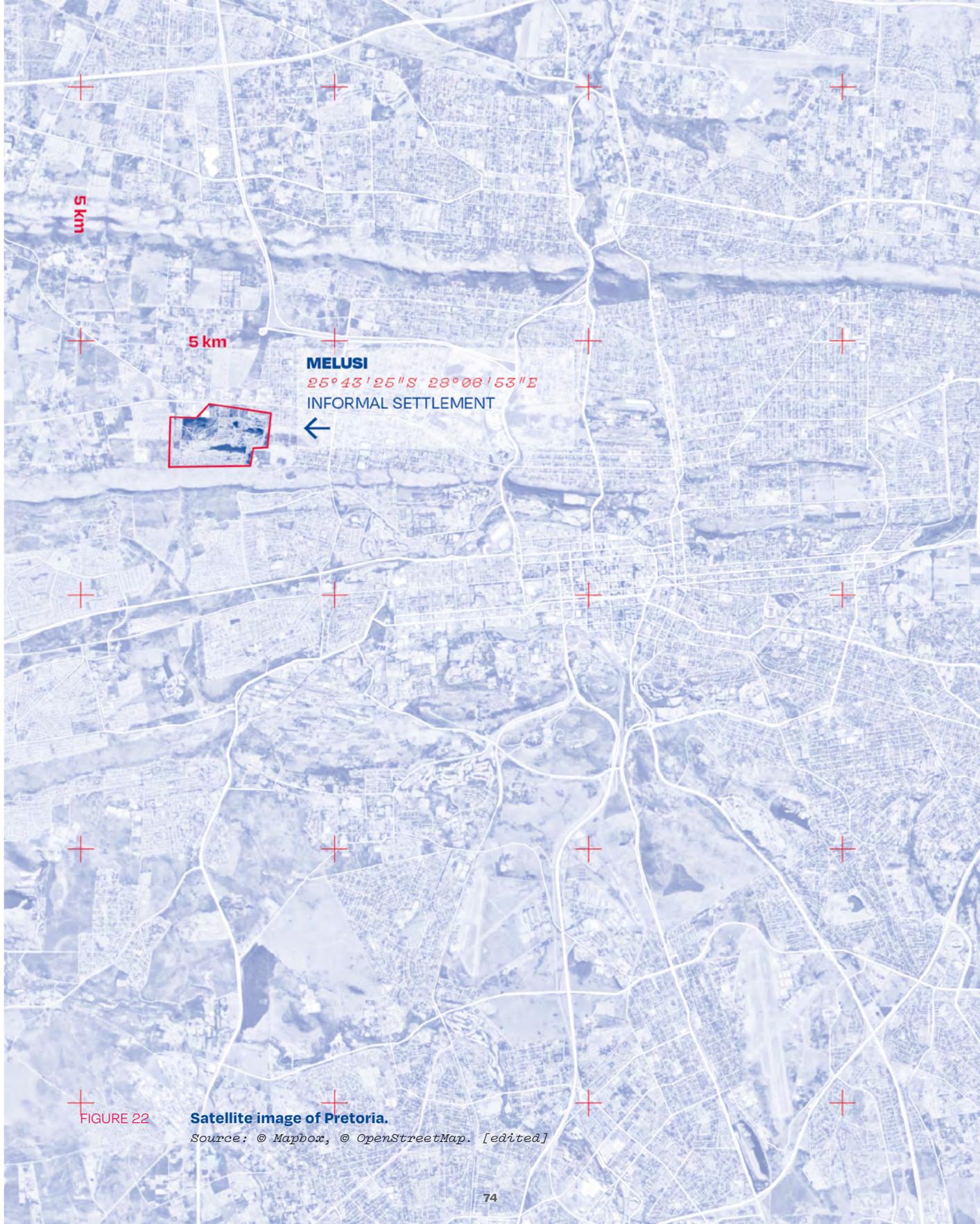


FIGURE 22

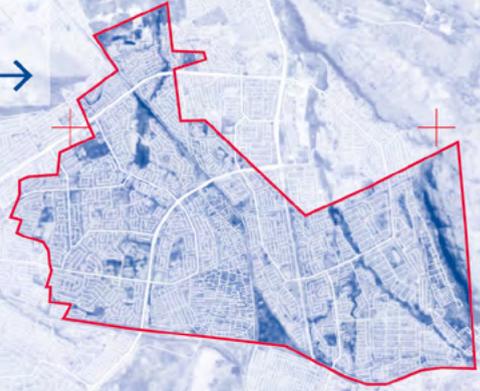
Satellite image of Pretoria.

Source: © Mapbox, © OpenStreetMap. [edited]

MAMELODI

25°43'18"S 28°23'55"E

TOWNSHIP



WOODLANE VILLAGE

25°49'51"S 28°18'28"E

INFORMAL SETTLEMENT



3.4

MELUSI

3.4.1

INTRODUCTION

Melusi is an *informal settlement* located in Pretoria West. It represents a typically rapidly growing urban development (Hugo, 2021, p.2). In 2008, the first residences were established, which have over time developed into a community of 27 000 residents (Abbott, 2020, as cited in Hugo, 2021, p.2).

“It covers a total area is 1,9km² and has a residential density of 14 200 inhabitants/km². The built environment consists out of a variety of structures and is partially serviced by the Tshwane municipality. Due to the limited access to resources and services and the nature of the built environment, Melusi has a generally dense population with high exposure to adverse conditions.”

(Hugo, 2021, p.2)

The places indicated on the map as “MYDO & ECD” show where the site activities took place. They are described in further detail on page 108.



PHOTO 2

Houses in Melusi.

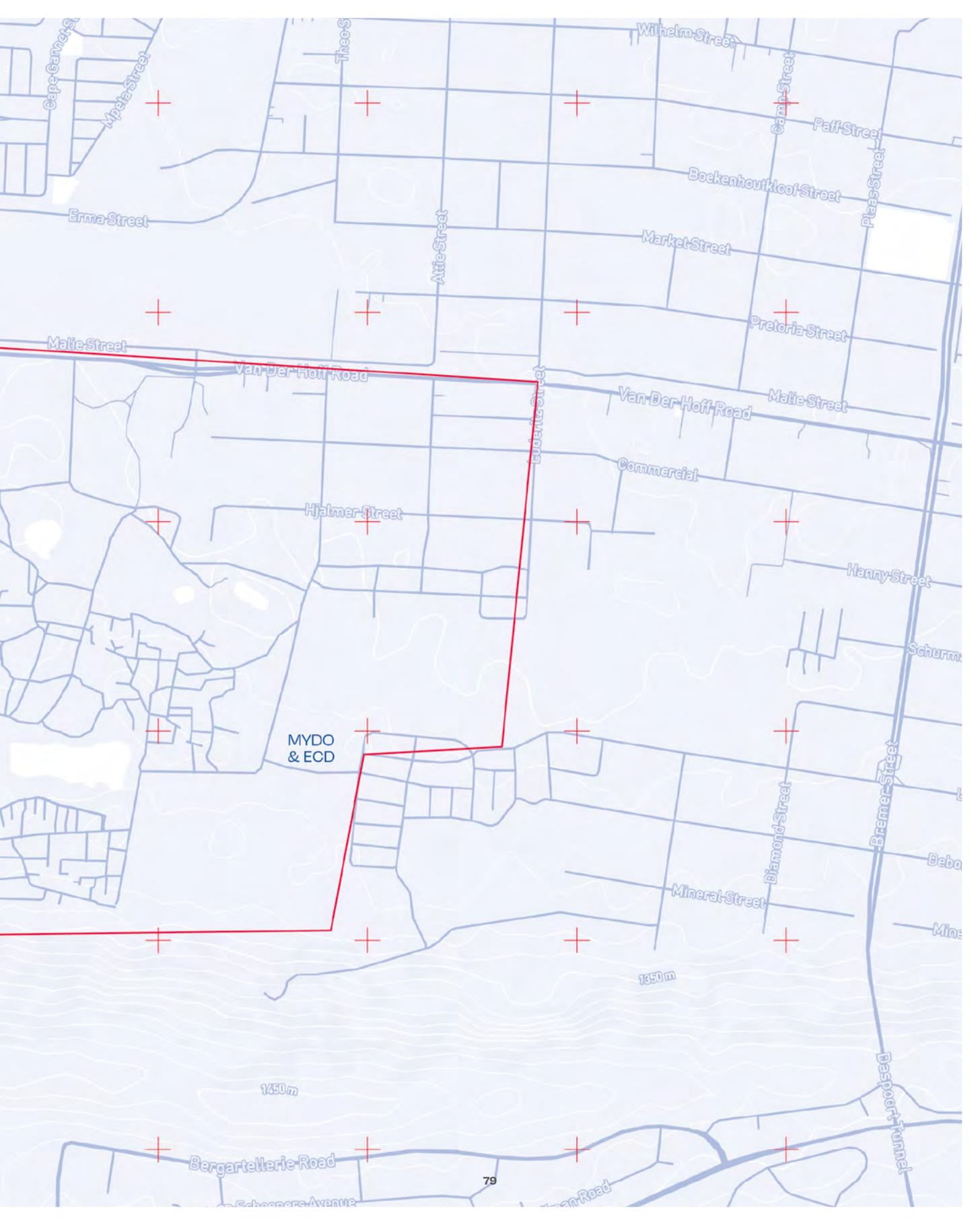
Source: author, 2021.



FIGURE 23

Map of Melusi.

Source: © Mapbox, © OpenStreetMap. [edited]



MYDO
& ECD

MELUSI

25° 43' 25" S 28° 08' 53" E

INFORMAL SETTLEMENT

500 m

500 m

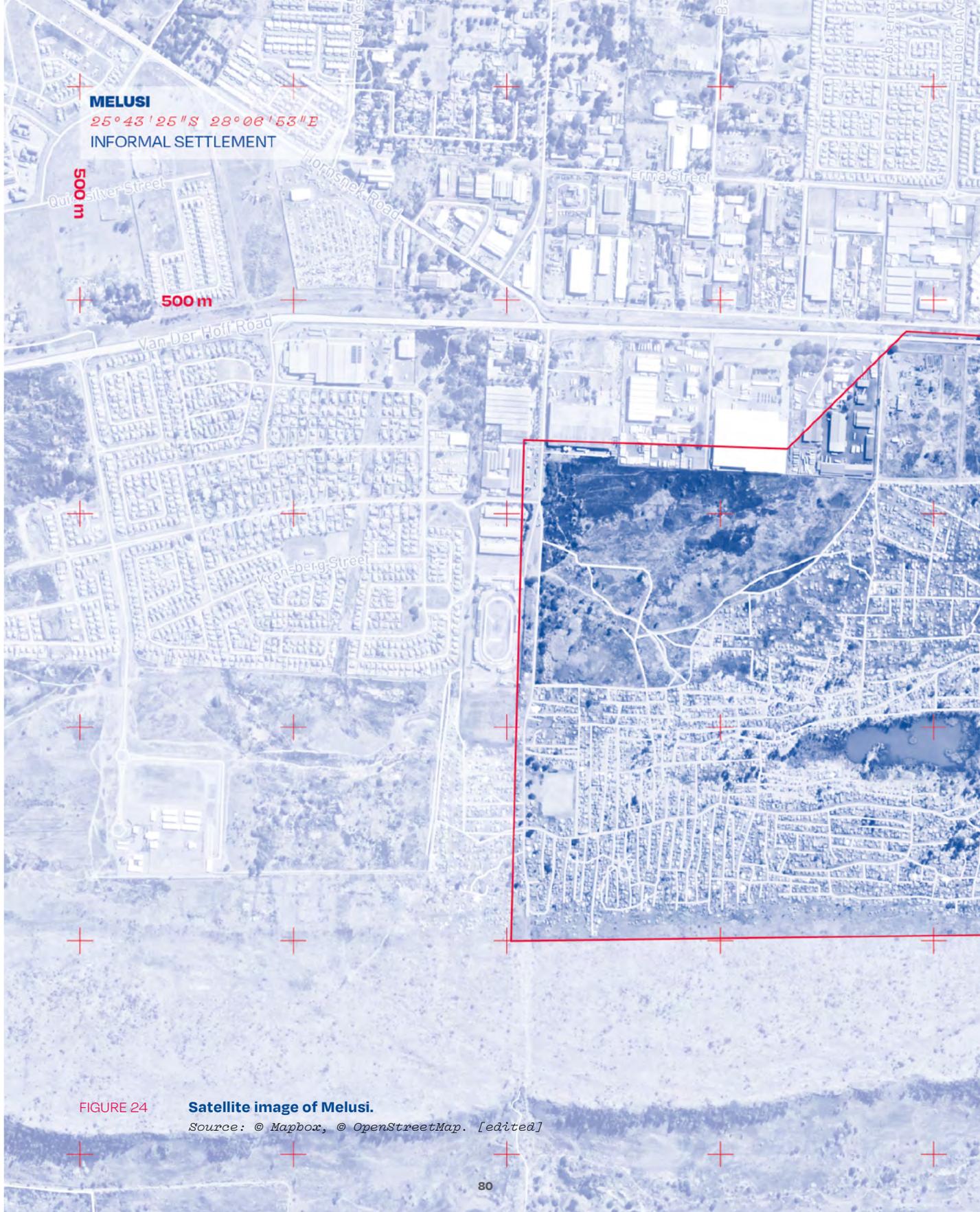


FIGURE 24

Satellite image of Melusi.

Source: © Mapbox, © OpenStreetMap. [edited]

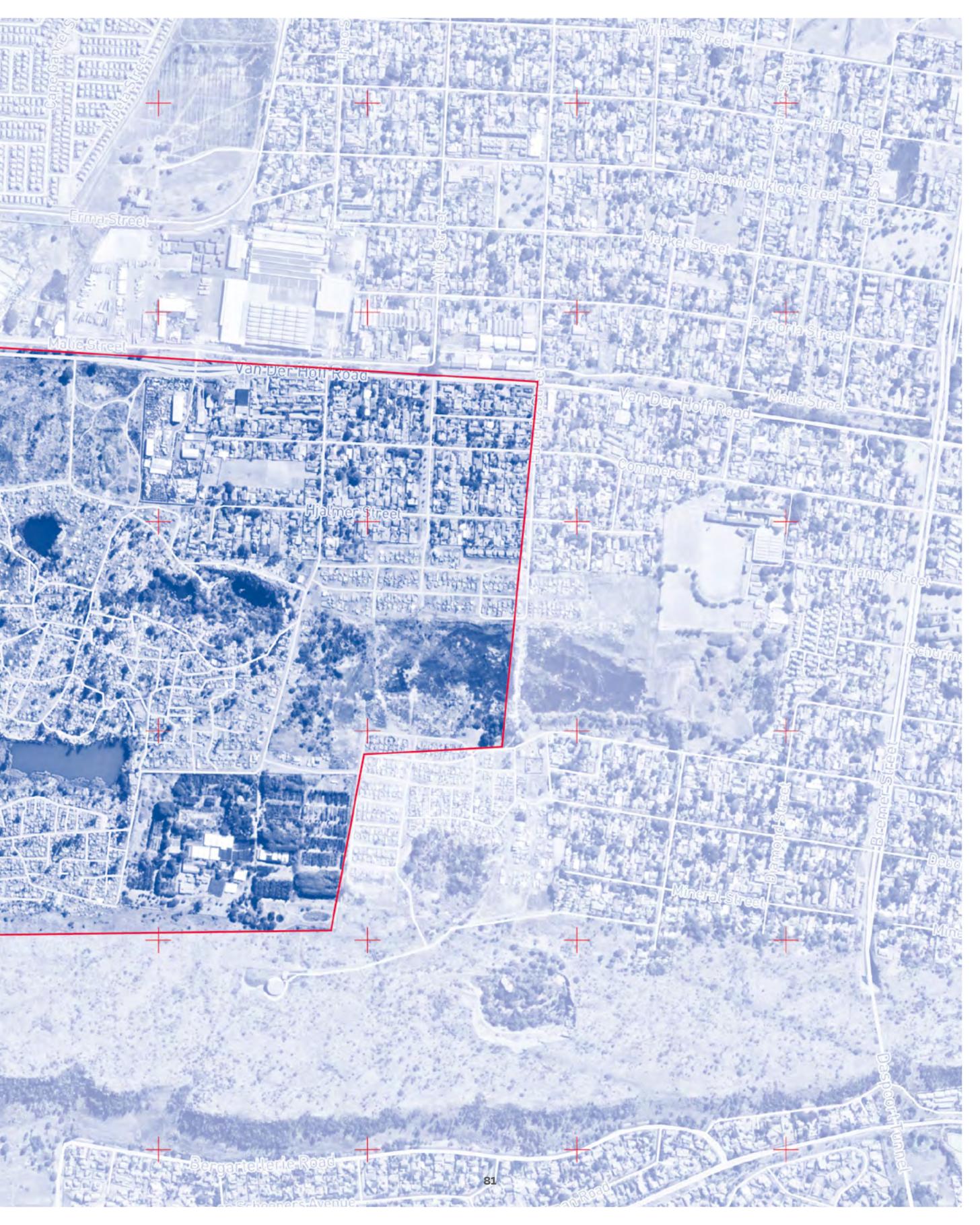




PHOTO 3

Fence between MYDO and the housing area in Melusi.

Source: author, 2021.



3.5

MAMELODI

3.5.1

INTRODUCTION

Mamelodi is a *township* located approximately 20 kilometers east of the central business district (CBD) in Pretoria (Osman, 2007, as cited in Levy, 2020, p.17). It is an exemplary model of the racially segregated and mono-functional townships, that resulted from the apartheid government's spatial planning regime. Located on the Vlakfontein farm, this area was one of the very few where African people could own land within Pretoria.

In 1945, the farm was bought to be used as an African settlement, however, with the rise of the apartheid government in 1948 and the implementation of the Groups Areas Act of 1953, the ruling party formally proclaimed the Vlakfontein farm a "Black Township" and the first 16 houses were built in Mamelodi. (Walker & Van der Waal, 1991, as cited in Levy, 2020, p.18)

The state provided housing (the NE 51/9 typology) created a lack of identity and belonging, and finally resulted in a monotonous and mono-functional settlement (Haarhoff, 2010, p.4 as cited

in Levy, 2020, p.18). It is characterized by its extreme socio-economic dependencies and a fluctuating relationship between formality and informality.

It is relevant to mention Mamelodi has its own language, called *Spitori*³³. It is a combination of several native African languages, and exclusively spoken in Mamelodi. *Spitori* constitutes a vital part of the local community, due to its socio-spatial implications of creating identity.

The site activities took place at the "UP Mamelodi Campus", shown on the map. Further details are given on page 124.

33

Spelling and name variations: *S'Pitori*, *Spitori*, *Pretoria Tswana*, *Pretoria Sotho*.



PHOTO 4

"House of Uzma", arguably one of the best places to get food in Mamelodi.

Source: author, 2021.

MAMELODI

25°43'18"S 28°23'55"E

TOWNSHIP

1 km

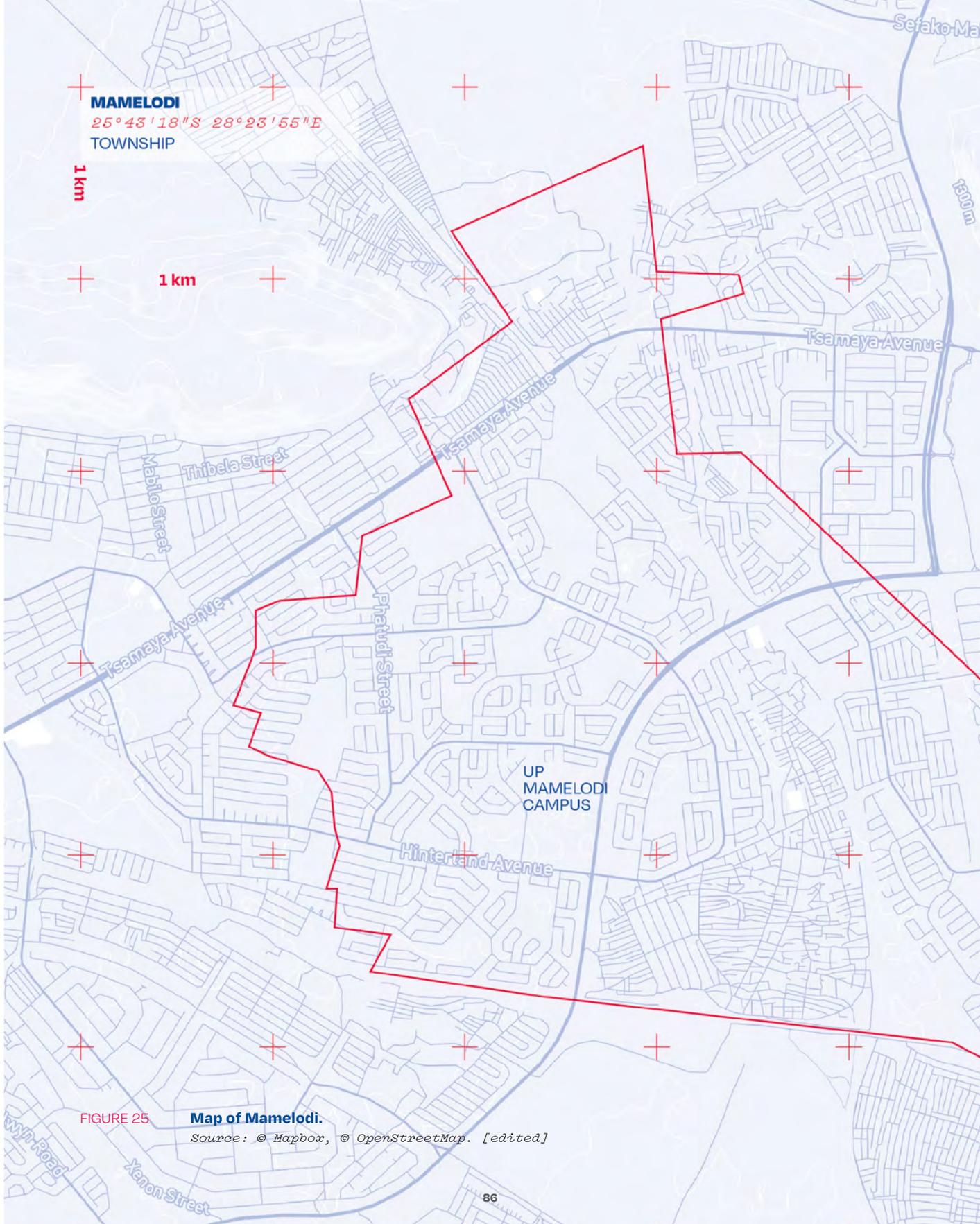
1 km

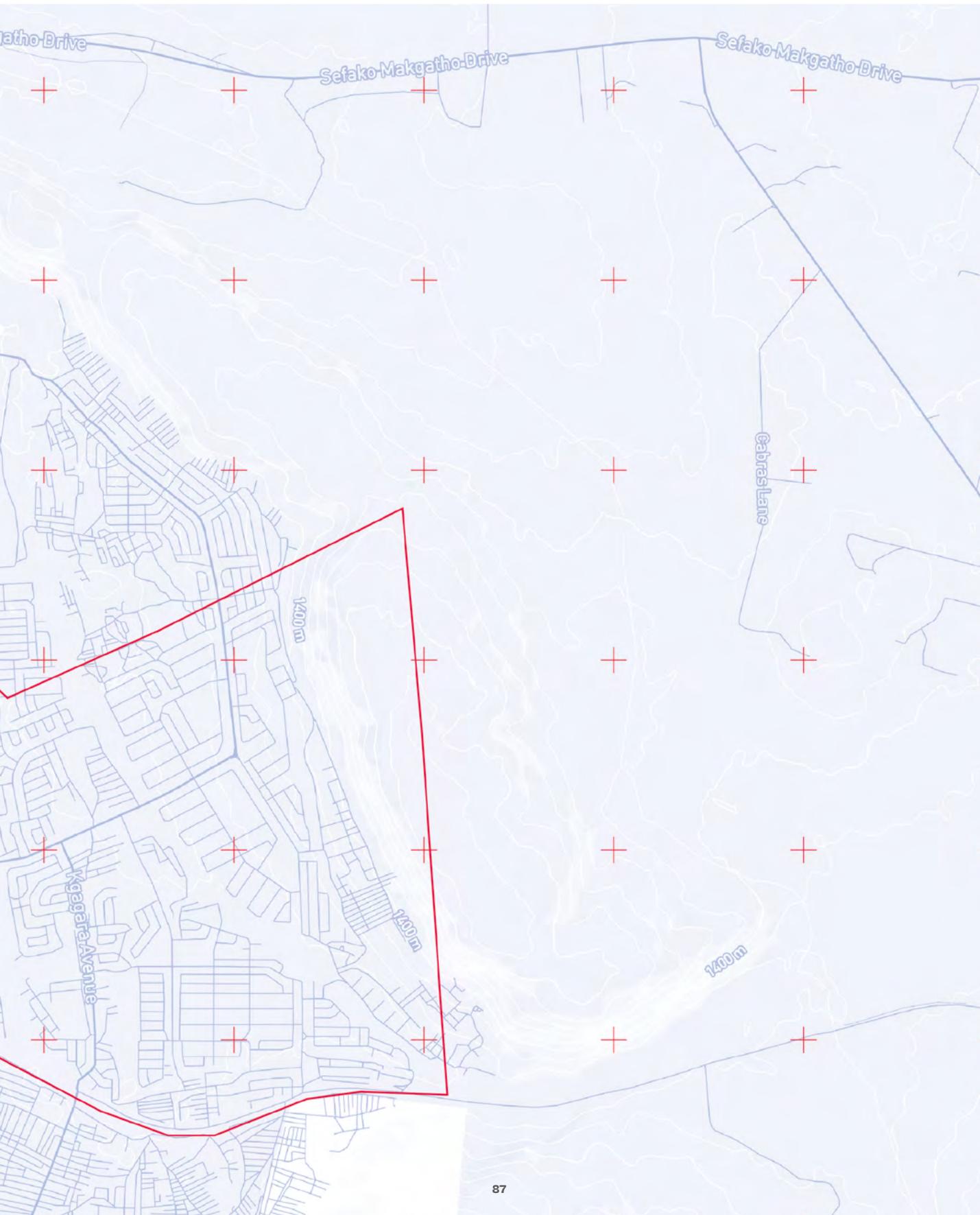
UP
MAMELODI
CAMPUS

FIGURE 25

Map of Mamelodi.

Source: © Mapbox, © OpenStreetMap. [edited]





MAMELODI

25°43'18"S 28°23'55"E

TOWNSHIP

1 km

1 km

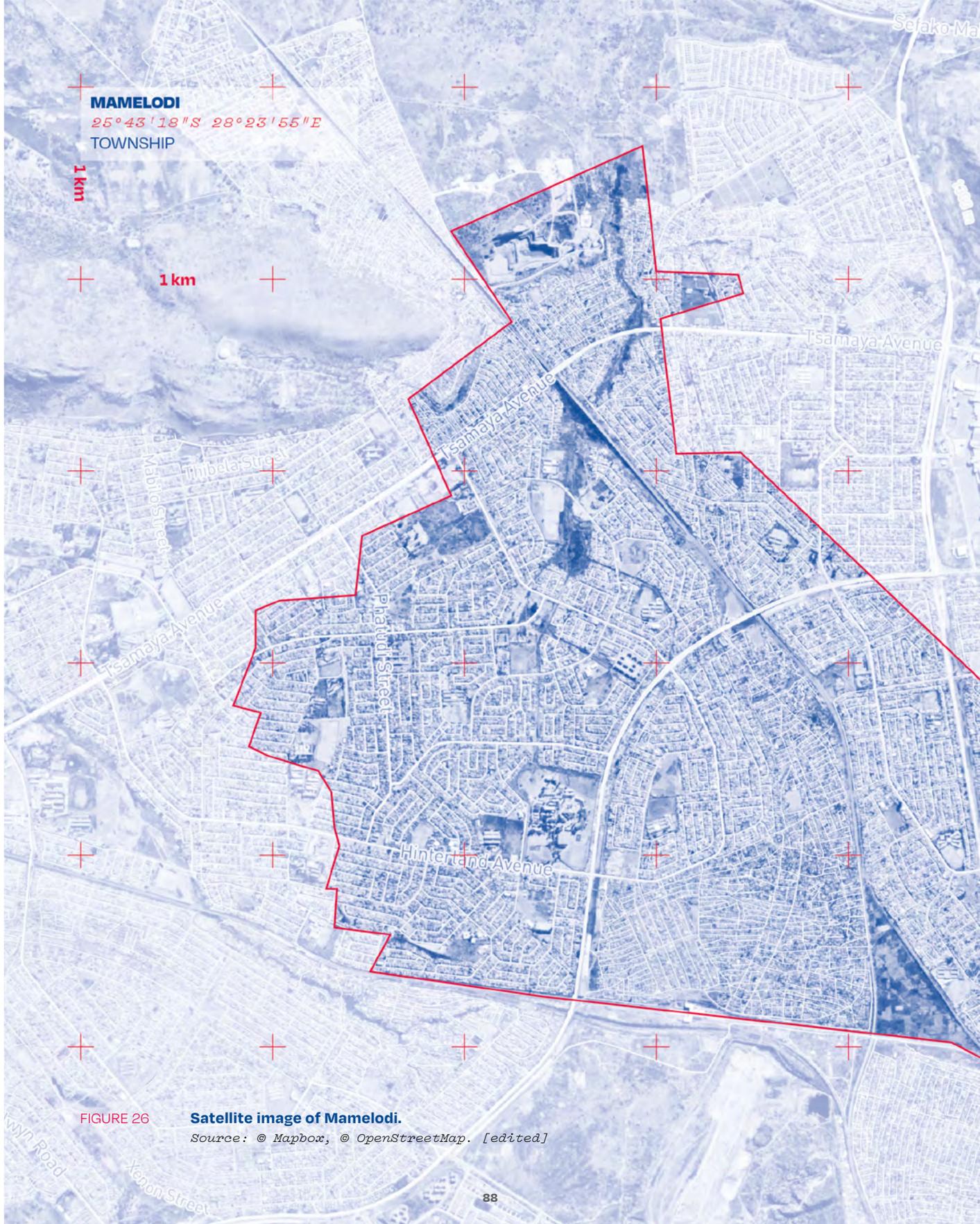
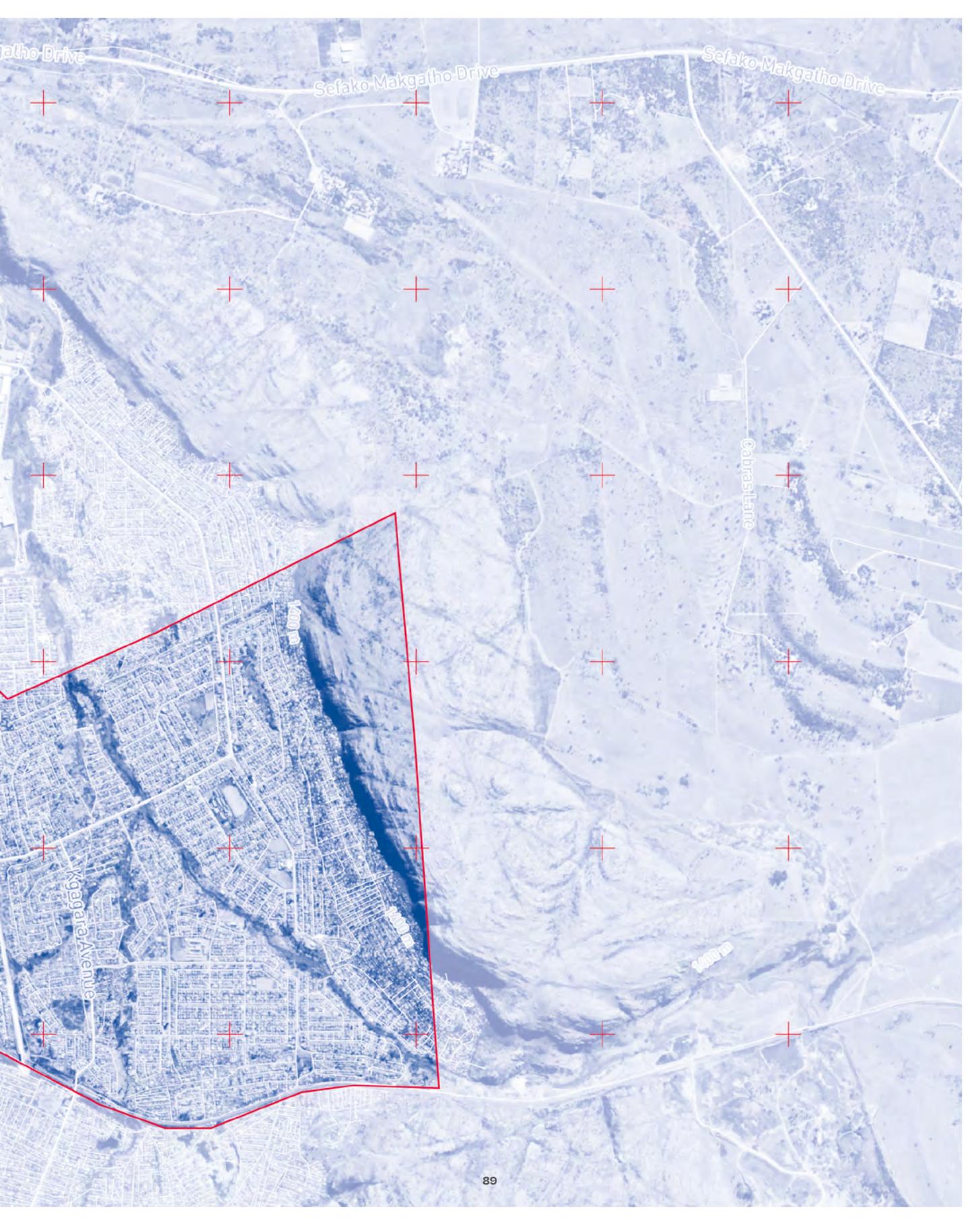


FIGURE 26

Satellite image of Mamelodi.

Source: © Mapbox, © OpenStreetMap. [edited]



Sefako Makgatho Drive

Sefako Makgatho Drive

Calrus Lane

Kgagala Avenue

Kgagala

Kgagala



PHOTO 5

Large wall painting: "Speak up!! Speak out!!".

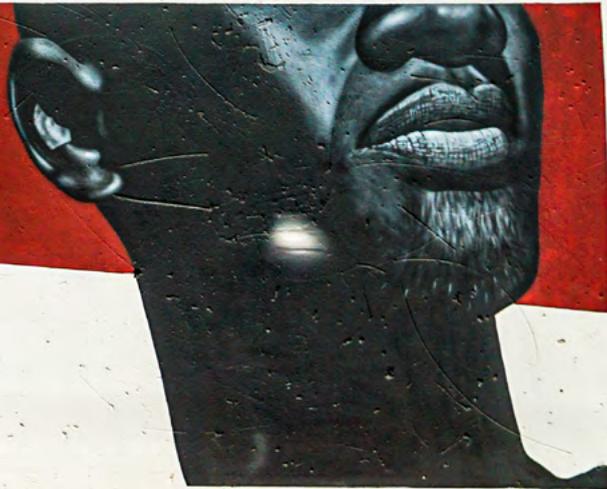
Source: author, 2021.

!! SPEAK OUT!!

ASED VIOLENCE NOW.

GAUTENG PROVINCE

CO-OPERATIVE GOVERNANCE AND
TRADITIONAL AFFAIRS
REPUBLIC OF SOUTH AFRICA



3.6

WOODLANE VILLAGE

3.6.1

INTRODUCTION

Woodlane Village, often referred to as “Plastic View”, is a small informal settlement in the south-east of Pretoria. The squatter camp is located in midst of a wealthy suburb, called Moreleta Park. It is surrounded by single-family homes, villas, golf estates and shopping malls.

“The informal settlement spreads over eight hectares of land on the corner of De Villebois Mareuil and Garsfontein roads near the exclusive Woodhill Golf Estate. It sits immediately adjacent to a gargantuan Dutch Reformed Church with a congregation of more than 7,000 people.

Woodlane Village comprises 846 households representing around 3,000 people from Zimbabwe, Lesotho, Mozambique, and provinces in South Africa. Most of the residents are political and economic migrants.”

(de Vos et al., 2019, p.14)

Pieter de Vos (2019) has compiled a body of documentary work about a man living in Woodlane Village, presented in black and white photographs and written stories. His work *Homelands* (2019) and a

personal conversation served as a fantastic inspirational sources for the thesis at hand.

Why the space around the Acacia tree (as indicated on the map) is important to this work is described on page 136.



PHOTO 6 **Woodlane Village, next to the soccer field.**
Source: author, 2021.

WOODLANE VILLAGE

25°49'51"S 28°18'28"E
INFORMAL SETTLEMENT

MORELETAPARK
CHURCH
CONGREGATION

250 m

250 m

SPORTS
FIELD

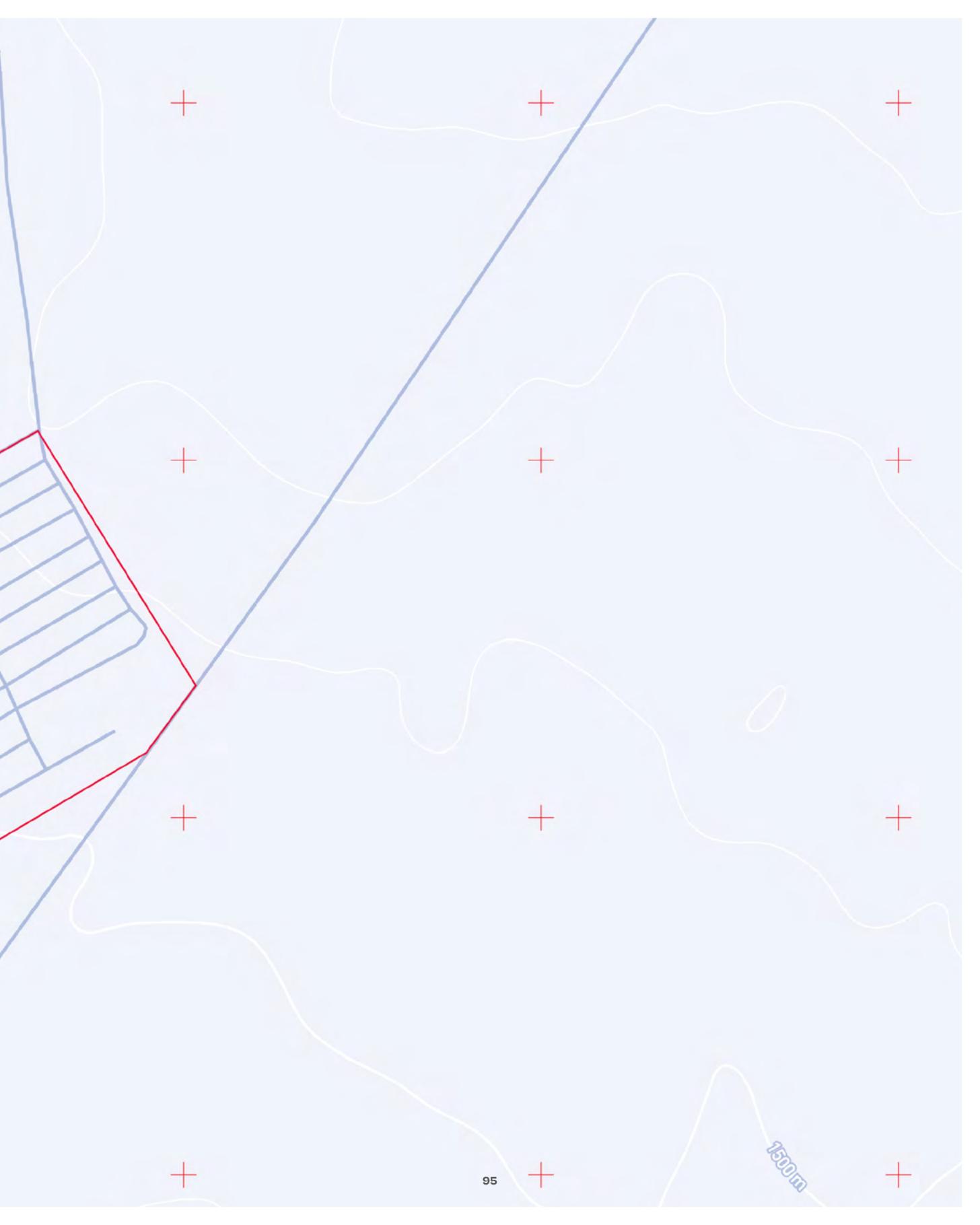
ACACIA
TREE

1500 m

FIGURE 27

Map of Woodlane Village.

Source: © Mapbox, © OpenStreetMap. [edited]



WOODLANE VILLAGE

25° 49' 51" S 28° 18' 26" E

INFORMAL SETTLEMENT

250 m

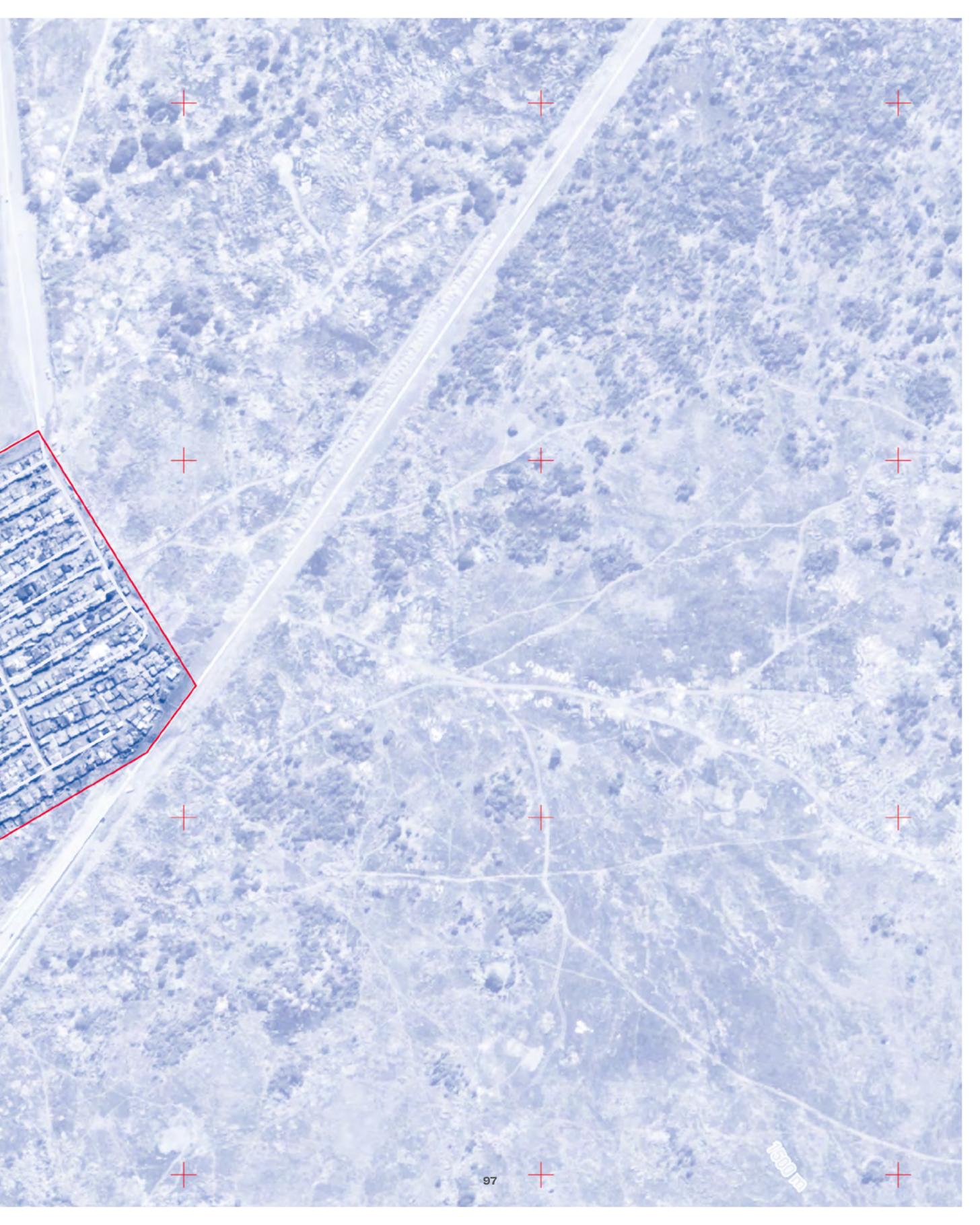
250 m

1500 m

FIGURE 28

Satellite image of Woodlane Village.

Source: © Mapbox, © OpenStreetMap. [edited]



1500 m



PHOTO 7

A colorful in Woodlane Village.

Source: author, 2021.







FIELD STUDY: SOUTH AFRICA

4.1

PARTICIPATORY ACTION RESEARCH

4.1.1

INTRODUCTION TO PAR

The field research in South Africa will be conducted through participatory action research (PAR). It describes a methodological approach which seeks active interaction and a horizontal dialogue between the researcher and the researched. PAR aims at understanding the world through intervention and transformation. Because this thesis centers upon co-production and participation, PAR seems to be a suitable approach. The following quote gives an introduction to PAR:

“Participatory action research (PAR) is a practice which involves researchers (academics, professionals or practitioners) and participants (social groups, communities or the grassroots) in a concerted effort which dialectically combines three aspects of work – participation, action and research – directed at producing knowledge and practices which would have the capacity to induce civic action and meaningful change concerning different social or spatial issues”

(Kinson et al., 2007, as cited in Viderman & Knierbein, 2015)

To further describe PAR, it can be added that it “*relies on transdisciplinary work in which both locally produced practice-based knowledge related to everyday life of various social groups and scientific knowledge of academics and professionals make equally valued contributions to cr[i]tical reflection, emancipatory practices and political action”* (Viderman & Knierbein, 2015).

Conducting PAR is considered an open process which calls for thorough reflection. Figure 29 illustrates how Schubotz (2019) describes aspects of each of the three terms included in PAR.

How PAR is implemented and documented within this work is explained on the next pages.

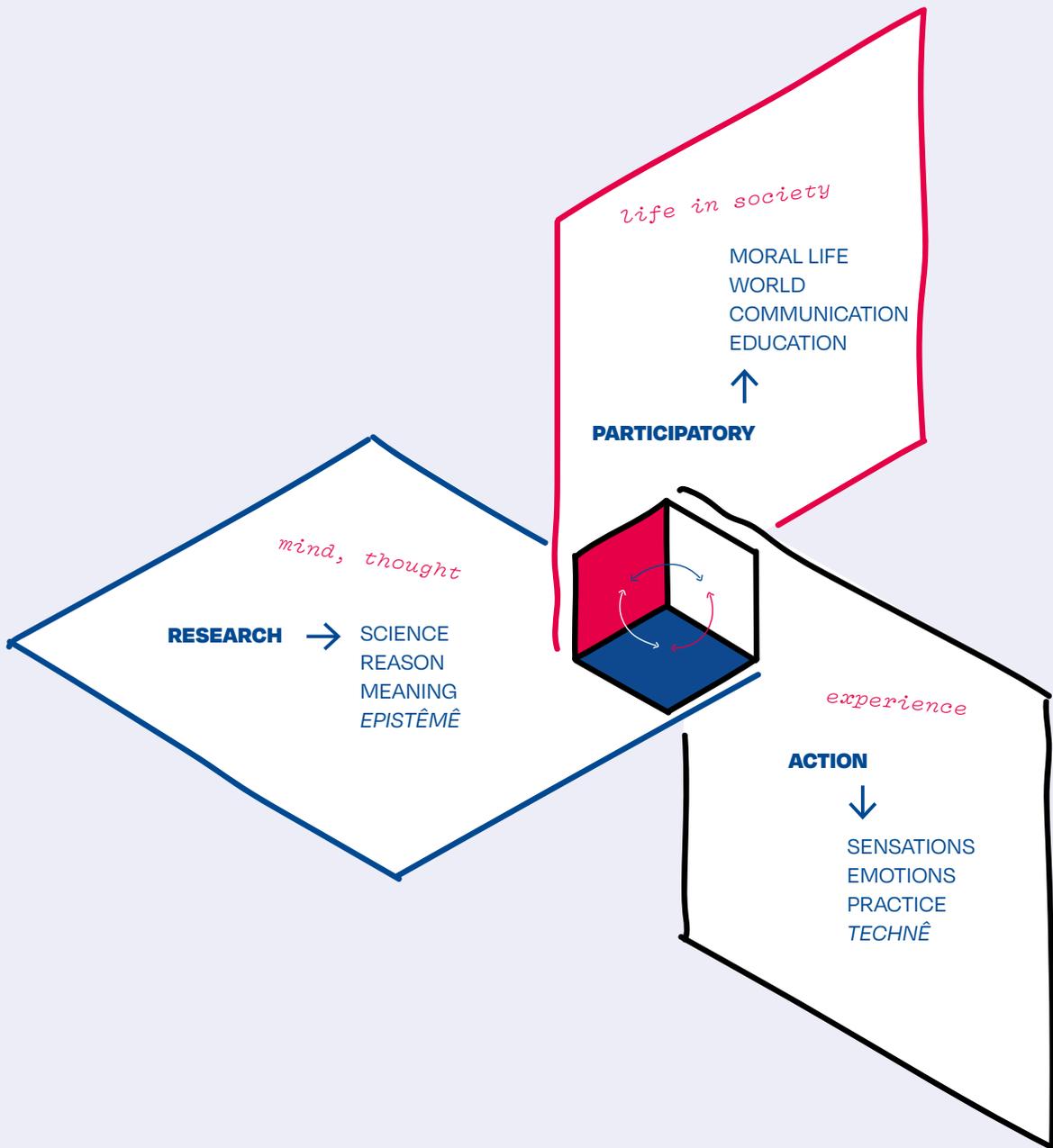


FIGURE 29 Participatory action research.

Source: Schubotz, 2019

4.1.2

IMPLEMENTING PAR

The PAR participants in this work include students from both *Reality Studio*³⁴ (CTH) and *Urban Citizen Studio*³⁵ (UP), local communities (Melusi, Mamelodi, Woodlane Village), and local organizations (*Play Africa*, etc.)

The *Urban Citizen Studio* serves as a platform to develop and test games with students and local citizens. The structure of the course is well connected with local actors, for example: citizens of marginalized communities, informal and formal educational institutes, local NGOs, other partners of the *Unit for Urban Citizenship* (UUC).

A major part of the stay in Pretoria will be game development workshops with UP students (local) and *Reality Studio* students (remote). Depending on the specific workshop aim, different methods and games will be adapted and used to implement the workshops. The focus will be on learning about the limits and opportunities of different games and playful activities. Games that appear reasonably useful and constructive can be further improved, adapted, developed, or eliminated otherwise.

Active participation of the researcher during the game sessions, as well as conversations with players (local actors and course students) before and/or after game sessions are essential to conduct PAR.

³⁴ See page 56.

³⁵ See page 57.

4.1.3

DOCUMENTING PAR

This chapter explains how the PAR process is documented. For this part of the thesis, the style of writing changes, as it is written from a first-person perspective. The reason being, that matching the method with the active position of the researcher, enables the reader to slip into the role of an active participant, rather than an observer.

Location specific site activities and workshop sessions on site form the core of the PAR part of the project. This includes:

- Documentation of all workshops that included games and/or playful activities, which took place in Mamelodi, Melusi, and Woodlane Village.
- Documentation of other site activities in Mamelodi, Melusi, and Woodlane Village, which did not contain (planned) game and/or play related activities, yet proved to be valuable in gaining a better understanding of the local context and/or local game culture.

Meetings and conversations between the workshop sessions which ensure the necessary flow of information, thoughts, and ideas. They include:

- *Reality Studio* tutoring sessions.
- Meetings with *Play Africa*.
- Informal conversations.

The documentation of the workshops is presented according to the three project sites: Mamelodi, Melusi, Woodlane Village. Each shows a chronological list of the workshops, which are generally structured according to the following scheme:

- Location, duration, and aim of the session.
- Summary of activities. (Implementation of games and playful activities, and implementation of remote participation during the session.)
- Reflections and improvements for upcoming sessions.

In cases where this general structure does not apply directly, certain elements are left out, rearranged, or combined.

Additionally, some personal reflections are included, wherever reasonable and important to this work. Such will be presented differently in terms of graphics and language, to make them easily distinguishable from the rest of the text.

It is important to note, that most workshops and site activities had a primary goal of carrying out the students' projects from *Reality Studio* and *Urban Citizenship Studio*. The priority of implementing games into the workshops varied, depending on site, project stage, project aim, and personal interest of students and local communities.

4.1.4

EXCURSUS: INITIAL CHALLENGES

The following part is a description of the early stage in the process of the project development. Some ideas mentioned have become more important than initially expected, whereas others have shown to be irrelevant. In any case, it seemed reasonable to document thought processes of potential ways this thesis could have been developed. It can help to explain what ground has been covered, before certain decisions were made.

One of the steps suggested by Ekim Tan (2017) is to “Engage Your Stakeholder Network” (p. 50–53). Through game development workshops with local partners in Pretoria (e.g.: students, citizens) and a workshop about games and methods³⁶ at *Reality Studio* in March, this part of the process will have a special focus on games.

Learnings from literature studies and based on contextual circumstances of this thesis, the following lines provide a summary of the process during early stages of the research development. Initial conditions, especially rather technical aspects, have proven to be very challenging due to the combination of the following circumstances. As literature suggests and several conversations³⁷ have shown, simplicity seems to be an important characteristic of any game in a context with many potential barriers. This aspect is important,

considering the phenomenon of *rational ignorance*³⁸ and reasons of general accessibility. In an interview with a staff architect from *Engineering Ministries International (EMI) South Africa*, language barriers were addressed as a major obstacle in communication (Moeckel, 2021).³⁹ Additionally, the time frame of this project does not allow for a highly complex game to be created, since designing and balancing such games is highly time-consuming.

Due to the ongoing Covid-19 pandemic, remote collaboration, which often requires stable Internet access, has increasingly gained importance. Many communities still do not have a reliable connection to the world wide web, and would therefore be excluded beforehand. However, being able to make a phone call, seemed like a limited, yet reasonable alternative. More generally, to channel the complexity of on-site human interaction through the narrow pathways of limited technical infrastructure, in a simple manner—without becoming simplistic—seems incredibly challenging (Sanderson, in Hamdi, 2010, p.20).

Although many frameworks and toolboxes have been published in the past seeking to integrate social inclusion, human rights, urban resilience, creating tools, and step-by-step methodologies to operationalize urban planning processes; the results and

³⁶ See page 60.

³⁷ See page 188.

³⁸ See page 44.

³⁹ Semi-structured interview with Matthew Moeckel, January 19, 2021, see appendices.

restrictions of the pandemic call for a re-appropriation to the current situation.

An example for such a toolkit is the *Participatory Incremental Urban Planning Toolbox* (UN-Habitat, 2020), which is partially based on the *New Urban Agenda* (United Nations, 2017) and the *International Guidelines on Urban and Territorial Planning* (UN-Habitat, 2015). The toolbox consists of 69 activities, which themselves contain several tools, many of which assume that people are free to meet in person. Similar things apply to the toolkit by Fisher (2001), *Building Bridges between citizens and local governments to work more effectively together through participatory planning (Part II)*. Both documents suggest reasonable and helpful tools for applied participation, yet the arguably surprising strike of Covid-19 makes several tools nearly impossible to use directly. Furthermore, most tools suggested do not fall into the category *serious games*⁴⁰; some are at most *gamified* processes.

Learnings from the initial challenges have influenced how this work was developed further. On site interaction and cultural concerns have gained importance compared to technological matters (e.g.: access to internet).

40

See page 40.

4.2

PLAYING MELUSI

4.2.1

INTRODUCTION

In Melusi we had two different locations where we implemented play sessions: the Regae Preschool of Hope—an Early Childhood Development Center (ECD), and the Melusi Youth Development Organization (MYDO). The children at the ECD were between the ages of three and ten, while the children at MYDO were between seven and ten years old.

Due to language barriers, a translator was indispensable on some occasions. At the Preschool of Hope, the principal and teacher Thabitha helped with translating; sometimes from English to a native African language, and sometimes from the English we spoke to an English which the young children would understand better. At MYDO, the children helped each other with translation. This seemed to be a very natural part of the whole communication process, and was therefore mostly initiated by the children themselves, without specific instructions.

Due to the different age groups, playful and ludic activities were mostly used at the Preschool of Hope, whereas at MYDO, we played games closer to the *paidia* end of the scope.

The team of students working in Melusi consisted of the following Masters students: Jua Greeff (UP), Juliana Achi (UP), Jonathan Naraine (CTH), and Adam Elinder (CTH).

4.2.2

SESSION ONE • 2021-03-29

Spending the afternoon in Melusi, we first went to the Regae Preschool of Hope, and later to MYDO, to play the initial game ideas we developed. The goal was to get to know the educators and children at both facilities, and to implement some playful activities.

We arrived just shortly after lunch, starting this first workshop day at the Regae Preschool of Hope. After a short conversation with Thabitha Milgret Tladi, the principal of the school, we gathered in a classroom with her and the participating children. Starting with a drawing exercise about groceries, we hoped to break the ice with the children. However, as we soon discovered, the language barrier seemed to be bigger than expected, and we had to ask Thabitha to support us with communication.

Despite all our efforts to try and connect with the children, all attempts appeared hopeless. As a result, we were forced to change our plans. As we found out that the children enjoyed playing with modeling clay, we quickly gained new hope in finding a common language. Just a few minutes later, lumps of light red clay were handed out to the children, who—to our relief and delight—immediately began playing and crafting small pieces of art. Fascinated by their creativity, we used the opportunity to start talking to the children about food and nutrition. Posters with fruits and vegetables helped with communication, while the participants were forming their favorite things to eat. With clay in our hands, prior intimidation and even language barriers seemed to fall away within the blink of an eye—it seemed to work miracles. After about one hour of creative work and great

conversations with the children, we wrapped-up the session and moved a couple of houses down the road, to MYDO.

At MYDO, we briefly talked to Hlakudi Gert Malatjito, our contact person, to find a good place for playing “Paper Plate Party” and how many participants we could count on for this session.

We set up the game props and prepared pencils, crayons, paper plates and stickers. Once we started to play, it quickly became clear that the number of players will keep changing constantly. Some children were curious and wanted to join when they saw us playing, others had to leave or simply lost interest. After we slightly modified the rules and adapted to the circumstances, it turned out to be a valuable and fun game. The cooperative and competitive parts of the game kept the tension, and made the participants think carefully about their actions. A scoreboard, visible to all players at all times, helped to keep track of the points.

Throughout this whole time, we stayed on a video call with the two Swedish project team members, Adam and Jonathan. Having the possibility as passive viewers of the scene, their role was to critically observe the process.

Overall, this first session in Melusi has taught us a lot. We realized that high levels of flexibility, spontaneity, and creativity, can be more important than detailed rules for a game. Despite some difficulties due to language barriers and cultural differences, we managed to connect on a human level, and slowly started to build trust.

4.2.3

SITE ACTIVITY • 2021-04-07

No workshop was planned for this day. We went to Melusi primarily to get administrative work done (handing out official consent forms). Little did we know that this single conversation would entirely change the way we think about intercultural communication.

The conversation emerged from, what seemed to be a minor misunderstanding about the schedule of the following workshops at the Regae Preschool of Hope. After talking to Thabitha, two women who work for *Preschools of Hope* approached us. The content of the conversation seems irrelevant compared to what thoughts and emotions it evoked. A deep discussion among Juliana, Jua, and me, on the way back home later this day, revealed the complexity of the conversation on several levels. A personal reflection about it can be found on the next page.

The following day, we met Jonathan and Adam online, to discuss what happened on site, how to best deal with the situation, and ways to move forward.

HUMAN THINGS

We printed consent forms for the parents of the children we were working with. Thabitha seemed okay with handing the forms out to have them signed.

This afternoon is shadowed by a sense of confusion and pressure. Confusion about our apparent incapability to have an honest and genuine conversation with people on site, our team members, or even ourselves; and pressure because even if we managed to do so, how would such an accomplishment in the end inform our research—because that is what this is all about, or is it? (As I am dreaming about a true and real conversation, I still do not know about the chat I will have later with Aron, an Uber driver. We will have a good talk about places we would like to live, why Mamelodi is not a safe area to stay, and the daunting impossibility of breaking the cycle of poverty.)

But for now we are still stuck with the consent forms we printed. We gave them to the teacher, for the parents to sign so we are “officially allowed” to work with their children. As we talk to the NGO workers, I am wondering: “How much use are ‘official academic consent forms’ at a level of mere human interaction?” Especially, when the language that is used is mostly incomprehensible for people who are not familiar with academic expressions, or simply English as a whole?

I think what I learned today, is that far beyond all “formal” academic expectations (—as important as they may be), something happens when it is simply people talking face-to-face—as mere humans.

4.2.5

SESSION TWO - 2021-04-19

On this day, we played two versions of the game "Paper Plate Party", each adapted for the different age groups at the Preschool of Hope and MYDO.

The first session took place in the morning, at the Preschool. Because we had to prepare multiple props for the game, including stickers and plates, we arrived early. We began to set up the game, right after we talked about some administrative matters with Thabitha. Once everything was ready, Thabitha assisted with leading the children from the classroom to the game-table, three to six participants at a time. The table was set up as a kind of buffet, with stickers showing different things to eat. We arranged the stickers according to different kinds of food, such as fruits, vegetables, sweets, meat, beverages, etc. Each child was given a paper plate, which they used to collect their favorite meals, chosen from the buffet. After they were done, they went back to the classroom, where they had time to stick the stickers onto the plate. In the meantime, the next group of children went to the buffet. In the end, Thabitha asked us if she could keep the remaining stickers to use them for teaching in the future, to which we agreed.

The goal was to find out about what children at Melusi like to eat, and to start conversations about nutrition. The children seemed to enjoy walking around the buffet quite a lot, as well as putting the stickers on the plates.

During this session, we had an ongoing video call with Adam and Jonathan. Their role was again to critically observe the process of the play.

After cleaning up and saying goodbye we took an extended break before moving on to MYDO for the session in the afternoon.

Back at MYDO, we played an improved version of the game "Paper Plate Party" that we used in our first workshop. However, this time we only played with around four to six children, which entirely changed the character of the game. Because we only had to deal with a small group of participants, we could focus more on the human interaction, rather than running the game itself. We were glad to see that many opportunities for small conversations during the game opened up. Additionally, we all sat down in the grass after the game, to talk about food and nutrition. The children seemed interested, revealed through the active participation in the conversation. The goal of playing this game with a small group was to shift the focus from the game outcome to the process of play. Furthermore, it helped to set the stage for the dialogue about food which took place after the game.

This long day at Melusi went well and without any major surprises or unexpected turns. It was full of valuable experiences.



PHOTO 8

Jua saying “Hi” to Adam and Jonathan on a video call during a workshop activity.

Source: author, 2021.



PHOTO 9

A small step towards building trust.

Source: author, 2021.

4.2.6

SESSION THREE • 2021-04-22

For the session this day, we created a completely new game about water.⁴¹ The aim was to test the game, learn about the children's perception of water, and how water is used in Melusi. This session took place only at MYDO.

Because this game needed comparatively much on-site preparation, we arrived in the early afternoon to set everything up. We used a stand-up whiteboard, panels, hoses, funnels, and food coloring. To our surprise, some children were already around and approached us, as they seemed curious about what was going on. It once again proved valuable to adapt quickly, and we invited the children to help us build the game. Together we designed a small structure, with the funnels on one side, hoses which go around the structure, and hose outlets at the bottom on the other side. After punching holes in the boards and attaching the hoses with cable ties, it was basically ready to play. Because of all the helping hands we finished the preparation early, which gave us extra time to decorate the game structure with all kinds of water-themed drawings. By the time all participants arrived, we were ready to go. First, we needed to color the water in four different colors, representing clean water (drinking water), rainwater, gray water, and brown water. The game is played in teams of two. One person draws a card, showing which kind of water has to be poured into the funnel. On the other side of the structure, their team-player needs to get ready to make sure the water ends up in the correct bucket. Through

communicating which kind of water should go into what kind of bucket, short discussions emerge between the players, and decisions must be made quickly.

All participants seemed to find the colorful and interactive play mode engaging and fun. It sparked interest in many children who saw what was going on from a distance, which made them come over and actively watch the game with rather obvious excitement. Most of them even joined the dialogue about water. We sat in a circle on the ground to have a discussion, similar to the previous workshop.

For the last part of this session, we had Jonathan and Adam join through a video call. They helped in designing the game and were glad to see how engaging and exciting it was to play.

A valuable day of building trust, playing games, having fun, and enjoying each other's company.

41

A description of the game can be found in the appendices.



PHOTO 10

"What do you think could be a good hight for the funnels?"

Source: Achi, 2021.



PHOTO 11

Co-building the game “Water you thinking about?”.

Source: author, 2021.



PHOTO 12

Coloring water to prepare for the game session.

Source: author, 2021.



4.2.7

SESSION FOUR • 2021-05-11

This session was run in collaboration with an NGO, called *Play Africa*⁴², "a groundbreaking social impact initiative creating inclusive and equitable spaces where all children, families and schools can play, create, innovate and connect" ([Play Africa, 2021](https://playafrica.org.za/)). They provided workshop material, implementing a design thinking methodology. The goal was to test the resources developed by *Play Africa*, in terms of applicability for facilitators and participants (children).

The focus age group of *Play Africa* made us decide to implement the workshop at MYDO, where children are older, compared to the ECD. In total nine children, between the ages seven and ten, attended this session.

The first part was a mapping exercise. Participants were asked to point out different activities and emotions around MYDO. Symbols, indicating elements of everyday-life (e.g.: a school or learning facility, a bike, a happy face, an apple, etc.) were glued to a big map. The children neither seemed excited nor bored during this exercise, yet participated actively.

Looking at a colorful map, we took a short break and started the second part: drawing. The task was to sketch their home, including the immediate surroundings and people. From the beginning of this exercise, some children seemed shy and hesitant to show their drawings. Going in a circle, we asked them to quickly explain what they sketched.

Most children managed to briefly formulate a few thoughts, yet words were scarce.

After the short round of sharing, one could sense the low energy, and little motivation was left for another exercise. At this point we remembered the first session in Melusi, at the Regae Preschool of Hope, where we ran into a similar situation. What had helped us last time, was about to work miracles yet again: modeling clay.

Exercise three was about building models. In addition to the clay, we had wooden sticks, colorful paper, small branches (serving as trees), glue and cardboard, to co-create our pieces of art. The task was to build elements that would make Melusi a better place to live. Motivation and excitement peaked again, which was certainly reflected in the quality of creativity expressed by participants and facilitators alike. Children shared their thoughts without having to be asked, resulting in an abundance of ideas, and undeniable fun and joy.

Rachel Fowkes and Zviko Kanyoka, both working for *Play Africa*, were present throughout the entire session. They carefully observed interactions and how the workshop material they provided was implemented.

Jonathan and Adam joined via video call for some time, yet without active interaction with participants. The workshop ended in good terms, despite some ups and downs. Again we learned a lot, both from the children and the activity itself, about how they perceive their built environment, and how to further improve the facilitation of workshops.

42

<https://playafrica.org.za/>

“

*Cities have the capability
of providing something for everybody,
only because, and only when,
they are created by everybody.*

- Jacobs, 1961, p.238 -

”



PHOTO 13

Model building session.

Source: author, 2021.



4.3

PLAYING MAMELODI

4.3.1

INTRODUCTION

All three workshops in Mamelodi took place at the UP Mamelodi Campus. With a one-to-two-hour time for on-site preparation, the sessions were planned to take about three hours each. All participants were adolescents, between the ages of sixteen and seventeen years. The number of participants varied from workshop to workshop due to Covid-19 restrictions and unforeseeable events. However, what was consistent was the number of people throughout each session.

Depending on the aim for each workshop, games played different roles, covering a wide scope from activities with playful elements to games with a specific set of rules.

The following Masters students were working in the Mamelodi context: Kirstin Niebuhr (UP), Jade van Staden (UP), Ellen Boman (CTH), and Joel Sidenvik (CTH). Additional support was provided by a number of Honours students from UP: Thabi Dhlamini, Johan Grobler, Ruchelle Taljaard, Robyn Forte (online), Kithue Masu, and Carla Pistorius.

4.3.2

SESSION ONE • 2021-03-25

The session took place at the UP Mamelodi Campus, and it was the first of a series of workshops with adolescents from Mamelodi. The general aim was to introduce everybody to the workshop program and to create room for all of us to get to know each other.

It started off by Kirstin Niebuhr and Dr Carin Combrinck explaining the context and background of the workshops and the mapping exercise planned for later this day. To break the ice, we played a short ball game. Most of the participants did not know each other, and one could sense uncertainty and insecurity, which made playing the game an important part of the process.

The main workshop activity was about mapping Mamelodi. We used an A1-sized map of Mamelodi, colorful threads, pins, and stickers, to make sure it is accessible and fun to work with. Participants were asked to pin their home, schools, and public places. Together we tried to find the routes they take when going to school or other locations the participants pointed out.

For the entire time of the workshop, we had an ongoing video call with three remote project partners. Two of them are *Reality Studio* students, Ellen Boman and Joel Sidenvik (both are part of the Mamelodi project team), as well as Robyn Forte (UP Honours student, called in from Durban).

After the workshop, a short conversation with some of the participants showed that they did not find the ongoing video call with the Swedish students distracting or annoying. They seemed to have a quite natural attitude towards a phone camera being present, some even mentioned that they liked it.

We could sense a certain amount of discomfort during the workshop. Because this was the first session, many people did not know each other and it was a new scenario to most participants and facilitators— feelings of insecurity and discomfort did not come as a surprise. However, to make everybody feel more comfortable and excited about the workshop, we decided to implement more fun and playful activities at the beginning of the upcoming session. Furthermore, a more active participation of the people who were on the video call was mentioned as a potential improvement for next time.

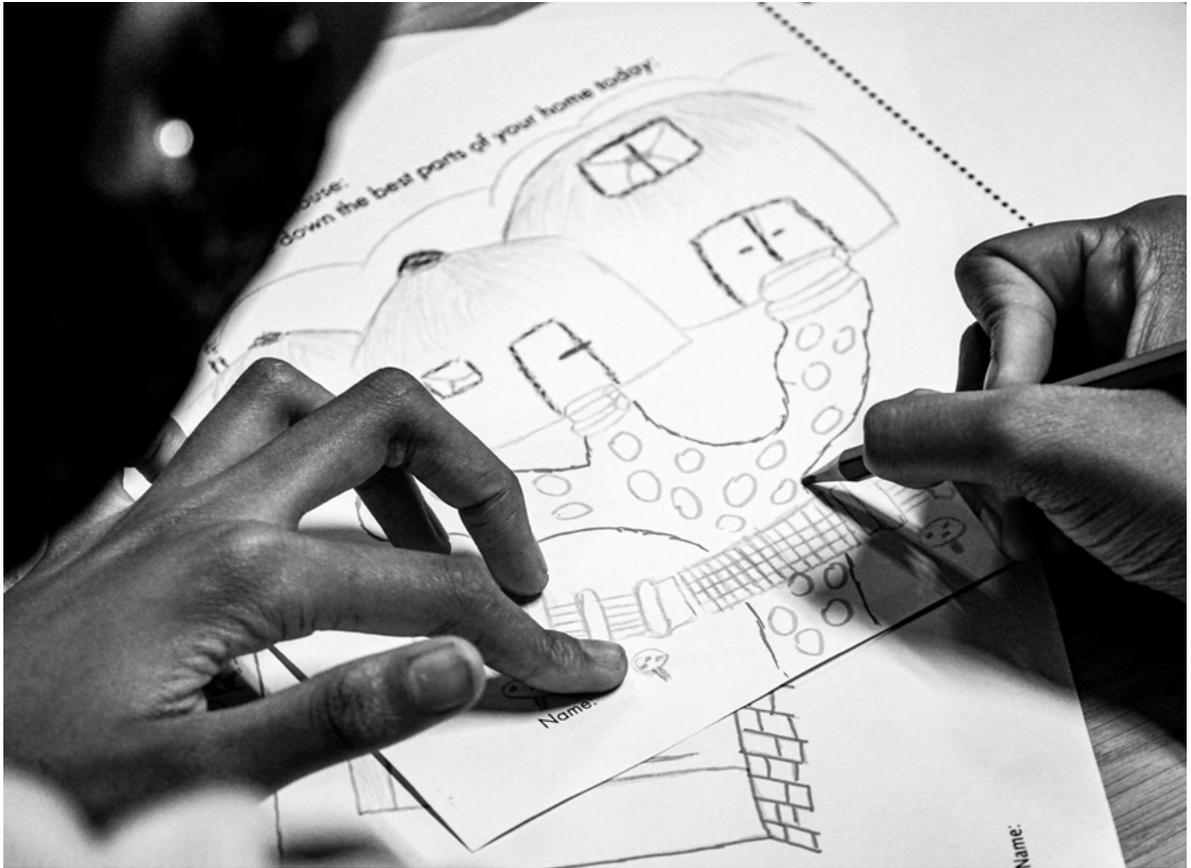


PHOTO 14

A dream house... with a fence.

Source: author, 2021.



PHOTO 15

Playing ball games.

Source: author, 2021.

4.3.3

SESSION TWO • 2021-04-01

One of the most valuable parts of this workshop (regarding the research at hand) appeared to happen before the official start. Two of the participants, Mlungisi and Mlungiseleli, carried an American football with them. As they started throwing the ball, I was standing just a few meters away, so we started to play together. They tried to teach me how to properly throw the ball. We casually played for a while, waiting for the others to arrive. I asked them if it was okay for me to take some pictures of them playing, which got them quite excited. I quickly took out my camera and started shooting photographs. We tried our best to create nice pictures together and enjoyed looking at them afterwards. This experience seemed so relevant because of its authentic emergence of play and human interaction.

After all participants arrived, we officially started with playing two simple ball games, with an inflatable ball. The first one was about remembering each other's names, the second one for mere enjoyment and getting comfortable with one another. Similar to the previous workshop, we had an ongoing video call throughout the session. This time, only Ellen Boman and Joel Sidenvik from *Reality Studio* joined. The kind of games we played made active participation for Ellen and Joel almost impossible. However, we tried to involve them as much as possible, trying to still make it an exciting experience for them, by playing and running around with the phone in our hands. The aim was to give them a first-person perspective, rather than a bird's-eye view.

For the main part of the workshop, Kirstin Niebuhr and Jade van Staden prepared a small booklet with

pictures from Mamelodi. The participants added color-coded stickers to specific locations shown on the photographs, to express their degree of comfort when walking through the shown area.

Compared to the last session, this workshop we specifically tried to include Joel and Ellen. Three main points stood out regarding this experience. The first one was already mentioned: We tried to change the camera's perspective to one of a first-person view, which put them in a more active position, and raised the accessibility at the table. Secondly, we put Ellen and Joel on different phone calls, which meant they were—just as everybody else—part of only one table. This way, it was easier for them to follow conversations, ask questions, and become familiar with the people around the table. Thirdly, we encouraged the workshop participants, to actively engage with the students on the phone. Aligning with what some of them had already stated the week before, they felt quite comfortable talking to somebody on a video call.

The ball games we played in the beginning of this workshop seemed to help a lot in creating a comfortable atmosphere for participants and facilitators. After the workshop, we asked all participants to bring their favorite game to the upcoming workshop.

4.3.4

SESSION THREE • 2021-04-15

Due to stricter UP Covid-19 regulations, we had to limit the number of participants for this workshop. What at first seemed like a drawback, turned into a valuable restriction, making it a valuable session. In addition to existing Covid-19 precautions, we decided to run the workshop entirely outside.

After all participants arrived, we briefly looked at the games they brought with them and talked about which ones we wanted to play.

We started with skipping. Forming a circle, with one person in the center who is spinning the rope, all of us had to jump each time the rope reached our position. Two rounds in, we decided to stop, because of physical exhaustion. The game was quick to learn, fun to play, and a very enjoyable experience.

Next, we played a game that Mlungisi and Mlungiseleli showed to us, called *Mabitsha*. To play, we just needed a ball and name tags. One person throws the ball high up into the air and calls somebody's name. The person called needs to react quickly, in order to catch the ball before it hits the ground. This game was perfect for trying to learn each other's names.

Having finished our physical exercise for this day, we went on to playing the word-game we created. It is based on an existing game, called *Boggle*⁴³, and aims at exploring the local language *Spitori*⁴⁴. The game consists of two main phases. In the first phase, players need to collect as many words

as possible, which can be made up of the letters shown on the dice. The total number of letters in all the words found results in the points each player gets in the end of this phase. The winner of phase one, will be leading phase two, which is about the meaning of words. In this phase, all players must find a descriptive sentence to explain a certain word found in phase one. To include the students from *Reality Studio*, we gave them a specific role to play in this game. Via video call, the participants had to describe the meaning of a word to our collaborator in Sweden, who then decided which of the explanations sounded the most reasonable to them.

As a follow-up exercise of the *Spitori* language game, we started a local *Spitori* dictionary. After handing out an A6 notebook to each of the participants, they started to fill the empty pages with *Spitori* words in alphabetical order, including a short description of each word. Together we decided to call the dictionary "Elkebitso"⁴⁵.

This workshop was of high value, for two main reasons. Firstly, because of the rich amount and variety of games that were discussed and played. And secondly, we had the chance to build a good amount of trust.

⁴³ See an unofficial online version of the game: <https://wordshake.com/boggle>.

⁴⁴ Spelling and name variations: *S'Pitori*, *Sepitori*, *Pretoria Tswana*, *Pretoria Sotho*.

⁴⁵ "Elkebitso" (*Spitori*), approximately translates to "every word".

4.3.5

PLAYING PARTICIPATORY PHOTOGRAPHY

As part of the PAR process Kirstin Niebuhr and I started, what we called: "Playing Participatory Photography"⁴⁶. Voigt (2015) describes *participatory photography* as "an engaging approach that enables people to share their perspectives and express their aspirations in ways that are not constrained by their ability [to] [sic] share these within the confines of conventional interactive processes or the written word" (para. 1).

We selected three participants⁴⁷, with whom we managed to establish a reasonable amount of trust throughout the previous weeks, and who seemed open for this kind of participation.

The main goal behind this idea was the following: As personal experience and the experience of many other photographers has shown, actively and consciously taking pictures allows one to see their environment through a different lens—literally and figuratively. We wanted to create this possibility for the participants, to become active in capturing moments of their everyday life.

We set up a group chat where Kirstin and I explained the reasons and goals for why we thought participatory photography could be a valuable experience for all of us. Each of the participants had the chance to ask questions, and certain things could be clarified before we agreed on implementing the idea together. Once we had bought two disposable cameras

with 27 exposures each, we all met at UP Mamelodi Campus to talk through some camera basics and what our mutual expectations are. Mulngiseleli and Mungisi shared one camera to keep costs down, and because they are twins it did not add much complications in having the camera used by two people. Simphiwe had a camera for herself. We agreed to meet again in one week to get the films developed.

A week later, we shared our exciting experiences of taking pictures. We were glad to hear that overall it has been an enjoyable and valuable adventure. Both films were almost completely used, and all of us were looking forward to seeing the results.

Soon after the films were developed and digitalized, we shared them online, so all of us could access the photographs. We also met online to discuss what we saw and interpreted, and talk about our favorite pictures. Everybody seemed happy about the results and we once again managed to create and share great experiences together.

⁴⁶ A selection of the developed and digitalized photographs can be found in the appendices. Consent to use and publish the pictures within the context of this thesis was given by all participants.

⁴⁷ Participants: *Simphiwe Shika, Mulngiseleli Ngefane, Mungisi Ngefane.*

ON PHOTOGRAPHY

During this work so far, photographs have proven to be an incredibly valuable tool for remote collaboration, sharing processes, and telling stories which could not be told using words. Humans are visual beings, and we have created tools to capture light, freeze moments, and share experiences through pictures. I have always been intrigued by the idea of “making” pictures, instead of “taking” them. It implies the idea of (co-)creating a photograph and including everything that is part of the composition, instead of taking it (away), removing it or detaching it from its context.

I believe that photographs can be a force for good, and help us to understand each other better. However, all this comes at a cost, which sometimes seems to be forgotten. Photographers have agency. Especially when holding a camera, one cannot simply taking the role of a mere observer without impacting their immediate surroundings through the mere fact of carrying a camera.

I have always tried to make people perceive my camera as a natural part of myself, sometimes successfully so, at times without much success. Yet due to my cultural background and ethnic appearance, I will always be denied access to certain areas of cultural and urban space. And even if I could make it into such places, my perception of my environment will always be through a lens that is specific to myself. If one wants to capture life through the lens of somebody else, “somebody else” has to press the shutter button.



PHOTO 16

A good afternoon at UP Mamelodi Campus.

Source: author, 2021.



4.3.7

SESSION FOUR • 2021-06-10

This game session was organized by Kirstin Niebuhr and me and took place entirely online. The same three adolescents⁴⁸, that had already been involved in “Playing Participatory Photography” (see page 130), agreed to meet again in order to once more dive into the mysteries of the local language *Spitori*.

Because the long-term goal from one of the previous sessions⁴⁹ was to create a *Spitori* dictionary (called *Elkebitso*), the idea of co-writing a story about the dictionary emerged. We used a web application, called *Unfolding Stories*, providing the platform for collaborative story writing.

Unfolding Stories was used by the Mamelodi project group before. Through exploring a common narrative around the question “where do children belong?”, their goal was to create a focus theme for their project through playing the game.⁵⁰ Based on the positive experience, and because it can be played online, we decided to use the game for a session to further work on the *Spitori* dictionary.

We started the online meeting with a short introduction about the goals and ideas for the game session. We titled our first co-written story “Elkebitso – A Dictionary’s Biography”. During the game, little talking occurred. Only one or two questions and laughing here and there, mostly about an entertaining line or phrase another player just

wrote. The atmosphere appeared to be quiet, calm, focused and relaxed.

The final story⁵¹ shows an interesting line of thought, touching upon topics such as Mamelodi Campus, *Spitori* vocabulary, youth, and sports. Reading through the story together opened up questions and ignited interesting conversations about different topics, far beyond the mere written lines captured in the game. *Unfolding Stories*, in this case, served as tool to collaboratively build a foundation for discussion and communication.

Because all of us enjoyed the first round, we decided to play another one. This time, we changed the topic to languages in a rather general sense, and how not speaking a common language can make verbal communication nearly impossible. We called this story “*Lorem Ipsum*”⁵², which already speaks for its non-content outcome. (Writing this story was merely used for experimental reasons, and the result itself contains mostly incoherent phrases.)

In the end, it was a fun session, and it seemed to delight everybody to see each other again, even though it was just online.

⁴⁸ Participants: *Simphiwe Shika, Mlungiseleli Ngejane, Mungisi Ngejane.*

⁴⁹ See page 129.

⁵⁰ The game outcome (final story) of this session can be found in the appendices.

⁵¹ The game outcome (final story) of this session can be found in the appendices.

⁵² *Lorem Ipsum* is an auto-generated placeholder text, without any meaning.

66

Don't ask 'What's the problem?'
Ask 'What's the story?'
That way you'll find out
what the problem really is.

- Neustadt & May, 1988, p.274 -

99

4.4

PLAYING WOODLANE VILLAGE

4.4.1

INTRODUCTION

The project team working in Woodlane Village did not include games or any kind of playful activities in their participatory action with local citizens. Nevertheless, two site activities included experiences worth mentioning in the context of the thesis at hand.

4.4.2

SITE ACTIVITY • 2021-04-23

This is about a game I learned how to play during a site activity in Woodlane Village.

The Woodlane Village project team had planned a live-build session for implementing a design intervention. They had spent much time prior to this day analyzing the settlement, interviewing people, designing, and partially prefabricating a small structure. The structure itself, although thoughtfully designed and crafted, was of little interest to me, compared to the encounters I made during the time in the settlement.

On our way to the small construction site, we met two middle-aged men playing a board game. As we walked by, I found out that some of the students had talked to one of them before, and I asked if they could introduce me to them. After a brief conversation, we moved on the location where the structure was being built. Shortly after I took a few pictures of the building process, I could not resist returning to the two men, and asking them about the board game.

I greeted them again, and kindly asked if I could stay for a bit and watch them play. Their response seemed friendly, neither overly excited, but not bothered either. The game board looked similar to a chessboard, with alternating black and white squares, although only the black fields were used for playing. Bottle caps served perfectly as pawns, using upside-down ones for the other player.

The pace of the game was quite fast, some moves happened too quickly for me to understand what was going on. Every time I told them I was not following anymore, they kindly took the time to explain detailed rules and told me about tricks how to

make the best out of certain situations. We joked that I would have to practice a lot, and then I could come back so we could play together.

It was exciting to see people play games as part of everyday life. I am thankful for the experience being able to meet the two men and learn from them.



PHOTO 17

Two man playing a local board game.

Source: author, 2021.





PHOTO 18

Good move.

Source: author, 2021.



4.4.3

SITE ACTIVITY • 2021-04-25

On this Sunday, Charlotte Swart (UP Honours student) and I planned to visit a local church service and get to know Woodlane Village from a new perspective. Considering this initial intention, this day could be considered unsuccessful. However, unexpected occurrences contributed to the research, and therefore seem worth mentioning.

We knew about a church service happening every Sunday, the only information we did not have was the exact time it would start. To make sure we would not miss it, we arrived shortly past nine o'clock in the morning. The service was to take place under a big Acacia tree, with a neatly paved concrete circle around it. When we arrived, nobody was there, except a few people working in their gardens right next to the tree. They seemed friendly and approachable, which made us decide to ask them about the church service and if they knew when it would start. Depending on who we asked, we got different responses, anywhere between ten and twelve in the morning. Slightly confused, we simply decided to stay and wait.

At some point, children started showing up and began playing with toys, which were laying all over the ground. Besides the toys—most of them broken—objects like old tires and ropes served as additional things to play with. It is hard to recall what happened exactly, but all of a sudden we found ourselves kicking—what looked like a spray can cap—from one person to the other. Play emerged between all of us, and judging by the laughter and excitement, we clearly enjoyed interacting.

The children were quite young, maybe around five years old. We do not know if they spoke any English, but we did not try to initiate a verbal conversation either—it just did not feel relevant in this situation.

We do not know who Charlotte and I were to the children, but it seemed like a genuine interaction between all of us.

Play unfolded its enormous potential in this situation. It showed how a group of people can set a limited number of rules, for a limited number of actions, but it is all you need to get started—especially between people who have very few rules to rely on for their social interaction otherwise.

Additional note: On the way out, alongside a fence on the edge of the settlement, I found several playing cards on the ground, some of them dirty and ripped in pieces. It is unclear if the owner did not like them, and therefore decided to throw them away, or simply lost the cards. In any case, the cards are a small indication of cards games being played in Woodlane Village.

FENCES OF FEAR

One thing that hit me every time whilst visiting Woodlane Village, is how strong and vigorous the fence that circles the area appears, when walking next to it.

Along one side of Woodlane Village—as if a fence was not enough—someone decided to build a solid wall, about two meters high, in addition to the fence. Such human-made barriers appear to be a spatial manifestation of fear and mistrust, so strongly present in many people’s lives in Pretoria. It is especially sad however, to see such a wall erected between an informal settlement (with mostly black, low-income inhabitants) and a church (with predominately upper-middle class, white members).

If “there shall be no poor among you”, was taken seriously, we might have to take down that fence, instead of wasting more resources on building another wall. Considering the effort we sometimes undertake in order to stay separated from one another—compared to the effort we may put into loving our neighbor**, much work is ahead of us.*

Thinking of all the pain this fence may have caused in the past, it has at least forced me to critically reflect my own view of poverty, and take my biases seriously. The challenge is far too real and too complex to comprehend. Good intentions are simply not good enough, and considerable harm is done much too easily. But are these valid reasons for becoming discouraged or lose heart?

* Source: Deuteronomy 15:4, KJV.

** Source: Matthew 22:39, KJV.



PHOTO 19

A broken toy train, made from plastic.

Source: author, 2021.



PHOTO 20

Play as it emerged with children from Woodlane Village.

Source: author, 2021.





REFLECTION AND CONCLUSION

5.1

FIELDWORK ANALYSIS

5.1.1

FRAMEWORK

As stated at the beginning of this work, the research questions discussed in this work relate as follows: The second question can be considered a sub-question to the first one. The sub-question will first be transformed into a framework which helps to discuss the overarching main research question. In the first part of chapter five the framework of analysis will be described and applied. The main research question will be discussed towards the end of this chapter, as it draws implications from the framework. The research questions are:

1. How can games contribute to an inclusive approach of co-producing knowledge about people and space?
2. What dimensions of play are revealed when implementing play in an intercultural context?

Translating the sub-question into a framework for analysis includes three steps, which are explained in further detail on the following pages. The steps of the framework include:

- Recap of game and play sessions
- Compiling experiences into three dimensions (time and scales; co-creating ideas; playing space)
- Dissecting dimensions of games and play

All parts of this chapter include visual expressions which add to the verbal discussion. Many illustrations use cubes (or dice) as a main element.

In the beginning each cube represents exactly one game session. As the discussion progresses the cubes will be dissected, unpacked, and reassembled.

The cubes indicate three-dimensional space, showing that all play takes place in relation to spatial parameters and can therefore have direct implications to space. Furthermore, the dimensions are color-coded, referring to three dimensions (levels of analysis and interpretation) with regards to the research questions.

5.1.2

RECAP: GAME AND PLAY SESSIONS

To start, it can be useful to recall the experiences from the fieldwork activities. An overview of all relevant game and play sessions is shown in Figure 30 on the next page.

Although the game and play sessions took place in a certain chronological order, the process of learning, understanding, and reflecting often happens in a non-chronological and non-linear way. The annotations in the illustration show a selection of processes that occurred in time and space.

Depending on the method of categorization, about ten different games were played during the PAR process. Many of them differed strongly in their features, for example covering a wide range from *Ludus* to *Paidia*, digital and non-digital games, etc. They also differed in terms of geographical location (Mamelodi, Melusi, Woodlane Village). Furthermore, the motivations and intentions why the games were implemented in the first place, varied strongly as well.

The complexity and diversity of the experiences make it difficult to find appropriate ways to structure the dimensions. This step will be covered on the next page.

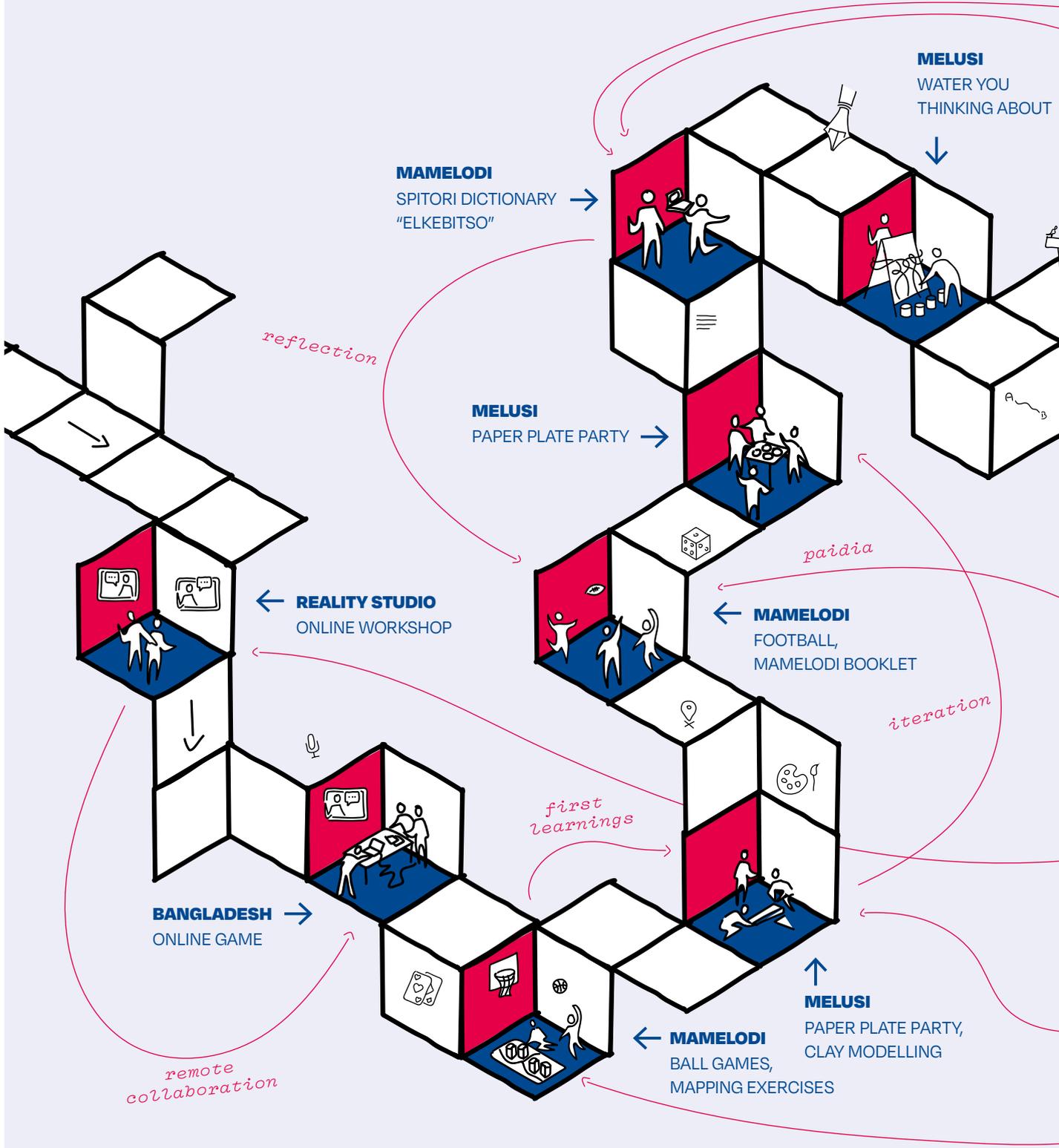
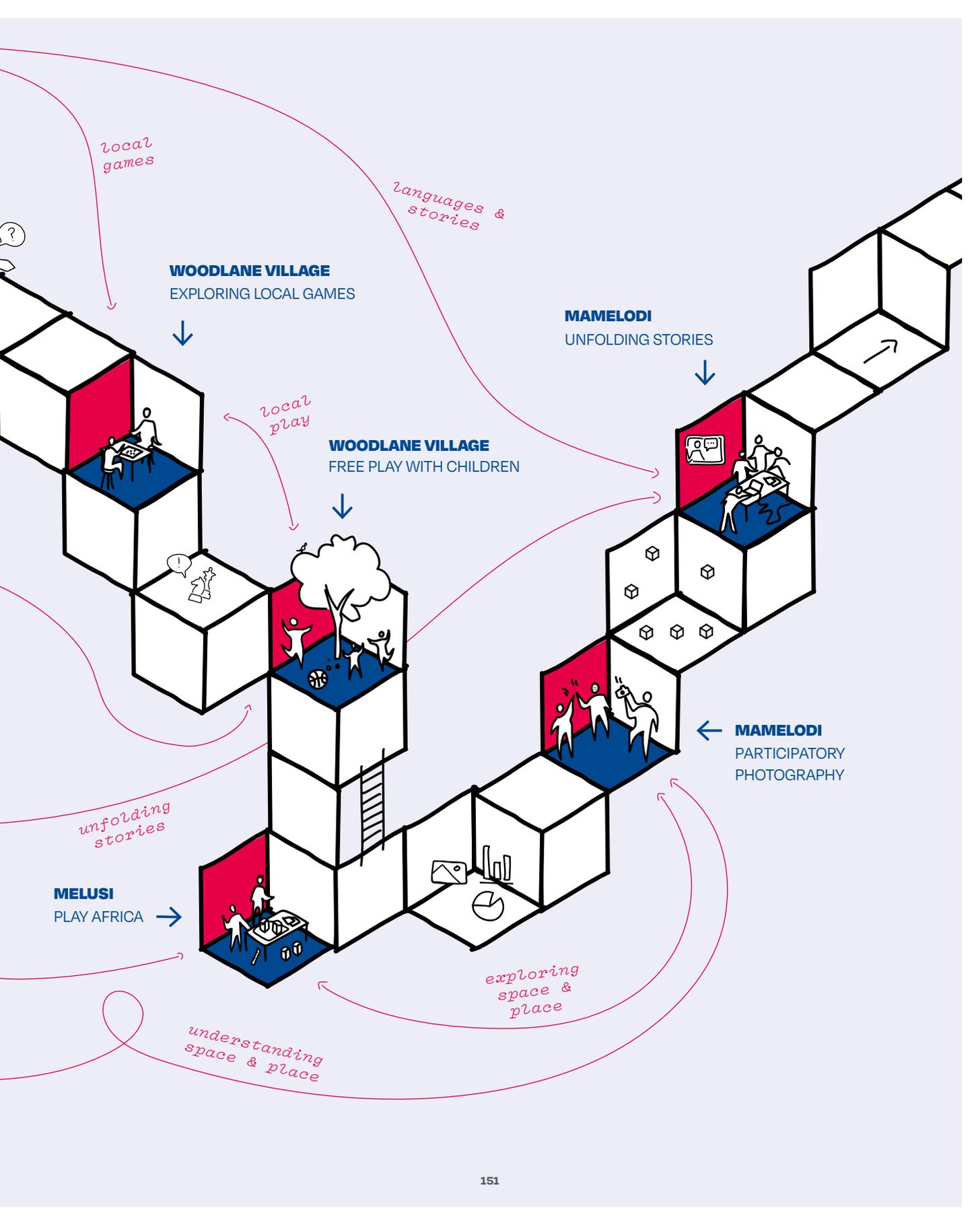


FIGURE 30 Recap of game and play sessions: chronological representation and non-linear processes.
 Source: author, 2021.



local games

languages & stories

WOODLANE VILLAGE
EXPLORING LOCAL GAMES

MAMELODI
UNFOLDING STORIES

local play

WOODLANE VILLAGE
FREE PLAY WITH CHILDREN

MAMELODI
PARTICIPATORY
PHOTOGRAPHY

unfolding stories

MELUSI
PLAY AFRICA

exploring space & place

understanding space & place

5.1.3

COMPILING EXPERIENCES

The step as described below helps to analyze the play sessions. It compiles experiences from the field activities according to certain characteristics. Due to the complex nature of the context in which games are implemented in this work, a clear categorization into different dimensions is not possible. Nevertheless, it seemed helpful to structure the experiences, which can allow for a more detailed reflection and critical analysis.

As shown in Figure 31, characteristics of different workshops are arranged according to the following three dimensions in a triangular shape:

- White: time and scales
- Blue: co-creating ideas
- Red: playing space

All aspects of each category are compiled and bound in the central cube. In the next step, this cube will be opened up, revealing insights and reflections on each dimension.

As already stated above, finding clear categories to analyze the experiences is impossible. The chosen dimensions are subject to the personal perspective of the author and should therefore be questioned critically.

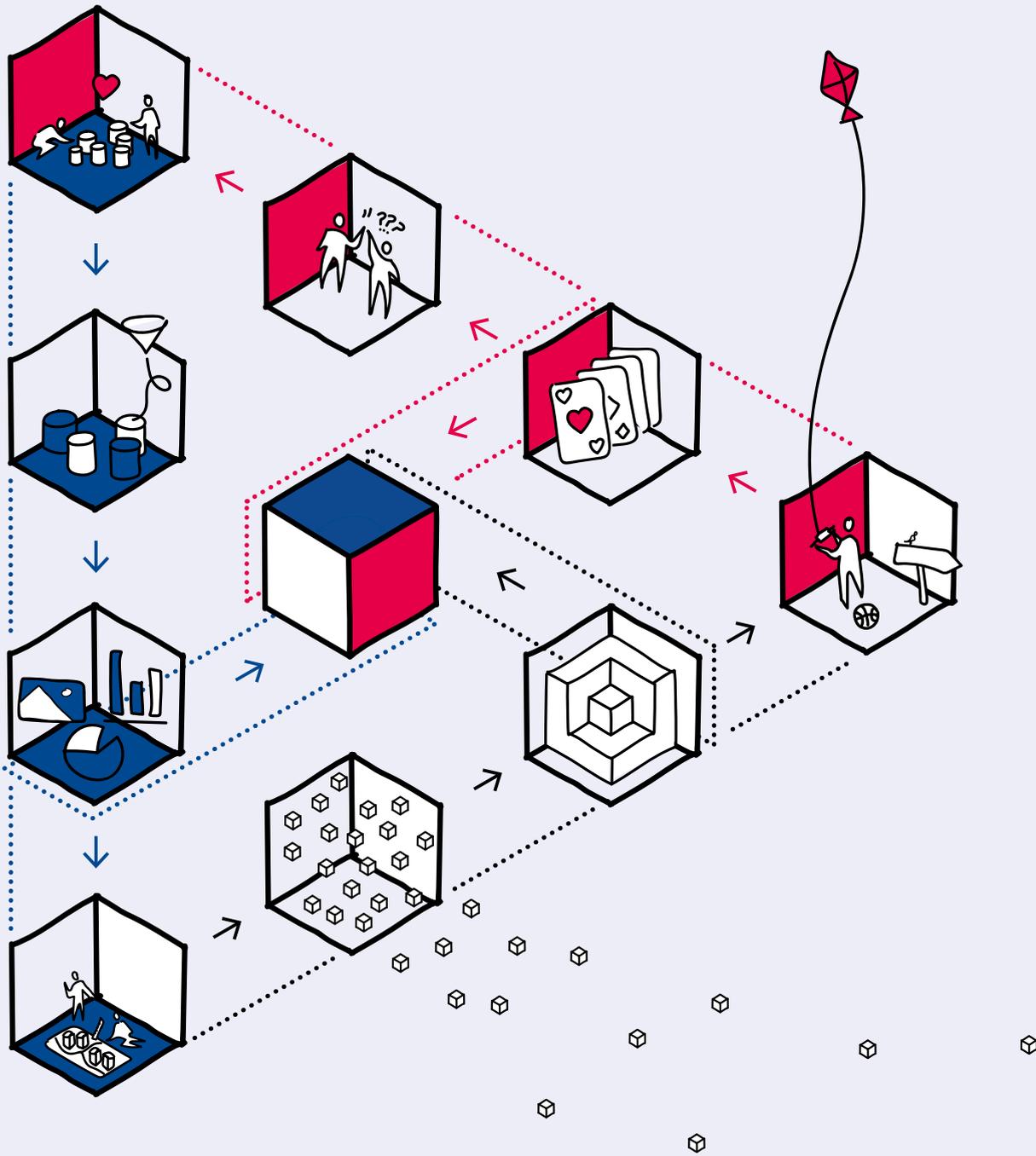


FIGURE 31 Extracting co-produced knowledge from play sessions, according to the three dimensions suggested in the framework.

Source: author, 2021.

5.1.4

DISSECTING THE CUBE

In this step the compiled experiences from the field study are dissected into the three dimensions as mentioned earlier. Figure 32 illustrates this step and shows visual elements from each dimension. Before diving into each dimension separately in the following chapters, a brief overview is given below:

The dimension of time and scales (white) explores how games can be used as a method to negotiate about the future, distinguishing between iterations and options. It further explains how games can occur on several scales and gives examples from the field study. (See page 156)

The blue dimension is about the co-creation of ideas to inform processes of developing projects. Within this context the notion of data collection will be questioned critically. (See page 164)

The dimension of playing space (red) describes where play can take place and how occupying space with playful activities might be considered co-creation. (See page 170)

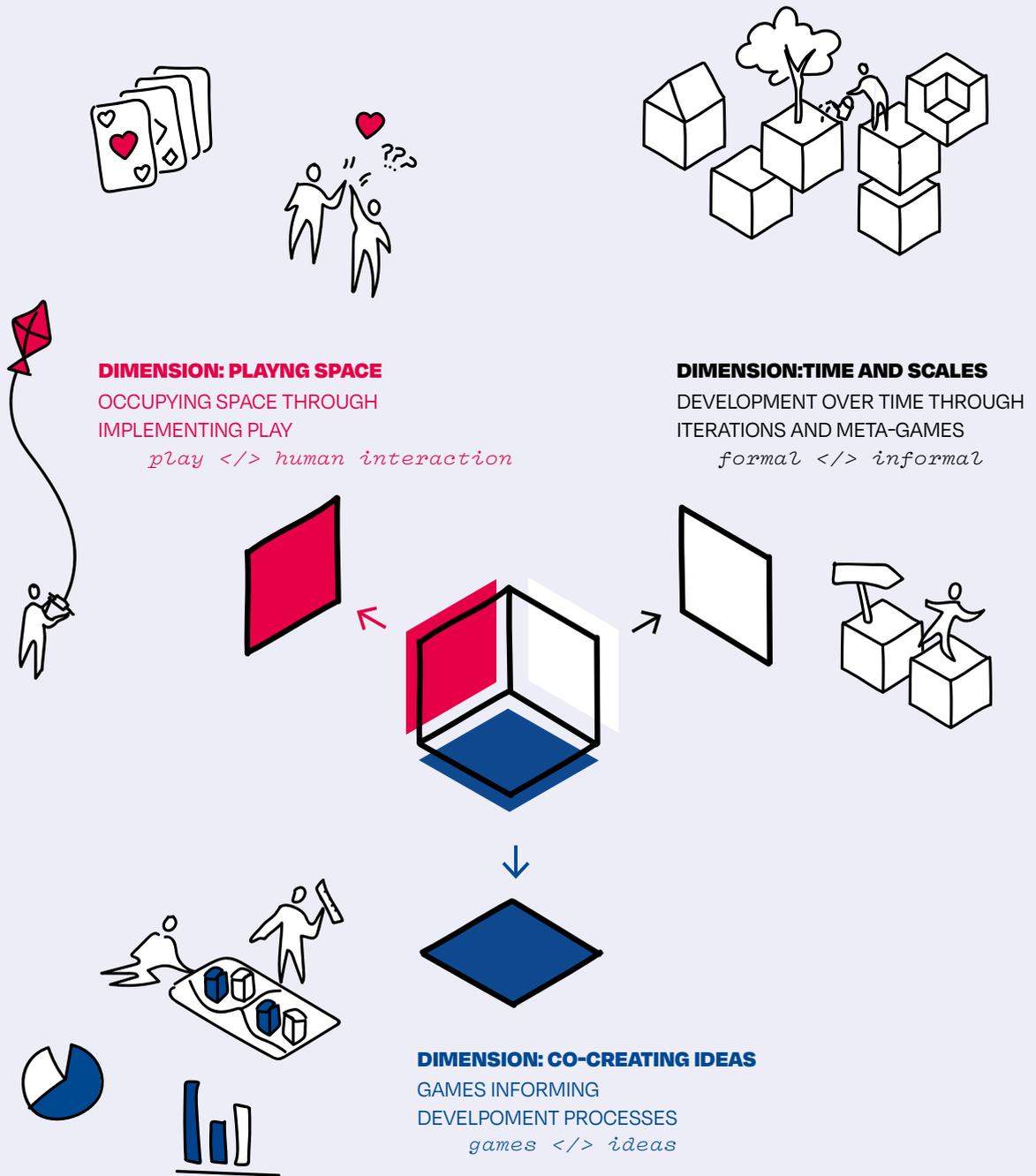


FIGURE 32 Dissecting the cube into dimensions of games and play.
 Source: author, 2021.

5.1.5

TIME AND SCALES

Games and play can be used as a method and a platform of constant negotiation about the future. Two levels of analysis can help to describe how play occurs in those scenarios.

Firstly, play serves as an environment, in which people can experiment with potential manifestations of a visionary future. It can serve as a risk-free environment for active exploration of human interaction in relation to social challenges (Abt, 1970, as cited in Hamdi, 2004, p.136). Play helps to create and evaluate different possibilities of emergent scenarios. This form of play becomes most evident in games with strong ludic characteristics. Rules help to simulate a certain environment and real-life restrictions. The game can be played in iterations (Figure 33, top-left), to show how different decisions affect the subsequent time-step. After several games have been played, a comparison between the outcomes helps to imagine how certain decisions might play out in reality.

“Iterative design approaches appear to be particularly well-suited to the conception of public spaces – both virtual and material, as well as imminently connected relational social processes.”

(Hofstätter et al., 2014, p.101)

Another form of using games to explore ideas, is to play through different options, compare and evaluate them (Figure 33, top-right). Such a scenario occurred in Melusi, when playing around with different

3D models. The children tried several different options of imagining their neighborhood. Sometimes during the creative process itself, otherwise in a conversation with other participants about their ideas.

Secondly, human interaction can be considered as playing games (Paravantis, 2015; Colchester, 2020a). It differs from the first model, because the space of negotiation is not a safe space within a game, but a real-life scenario. It is what happens every day, on several scales of space and time, which are strongly interrelated (Figure 33, bottom). The illustration uses one cube as the unit of play between two or more individuals, considering a timespan of about one day. It is small enough to be relatable for people to apprehend, and big enough to be visible on a larger scale, in terms of impact and relevance. At a smaller scale, play can occur within a single person, thinking up scenarios, “playing around with thoughts”. At first glance, it might appear strange calling such ordinary moments *games*, but a closer look might justify such a hypothesis.

Although some game attributes change depending on the scale, the following parameters appear to apply similarly: The game environment is a limited realm of real-life, circumscribed by all relevant parameters directly relevant to the game itself (—the smaller the scale, the more limited the system in which the game takes place). The rules consist of social norms, dependent on the culture and background of each player, applied according to each players’ personal conceptions. One or more potential winners can be determined through constant

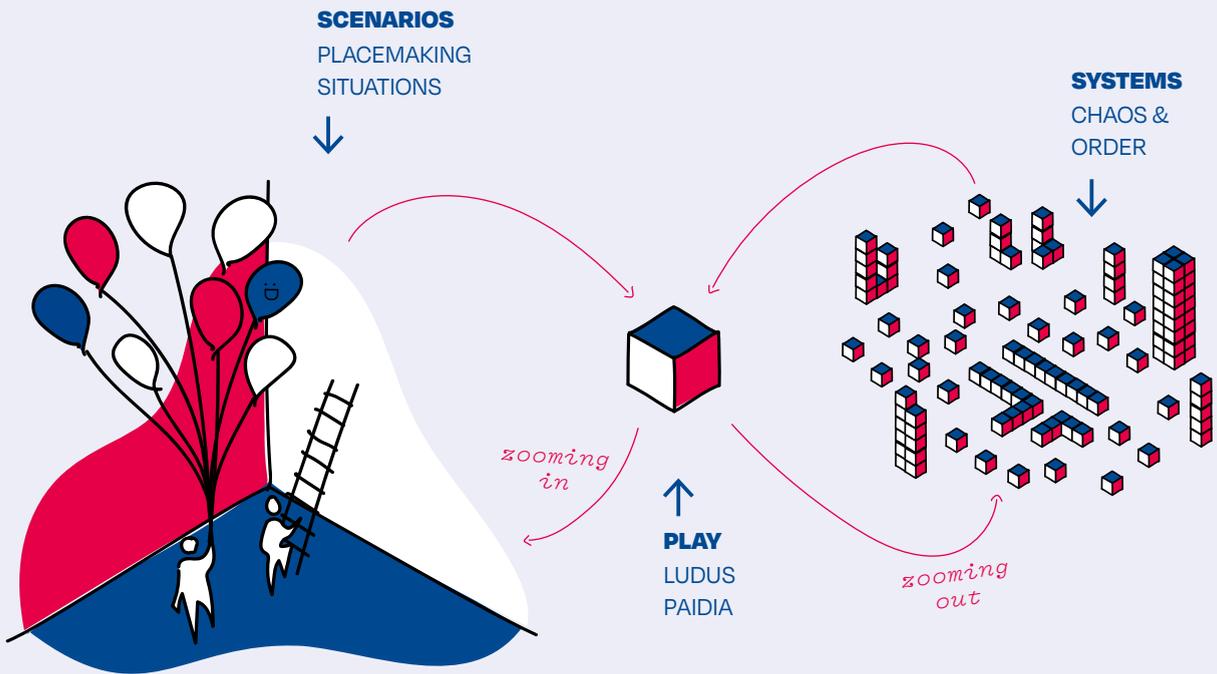
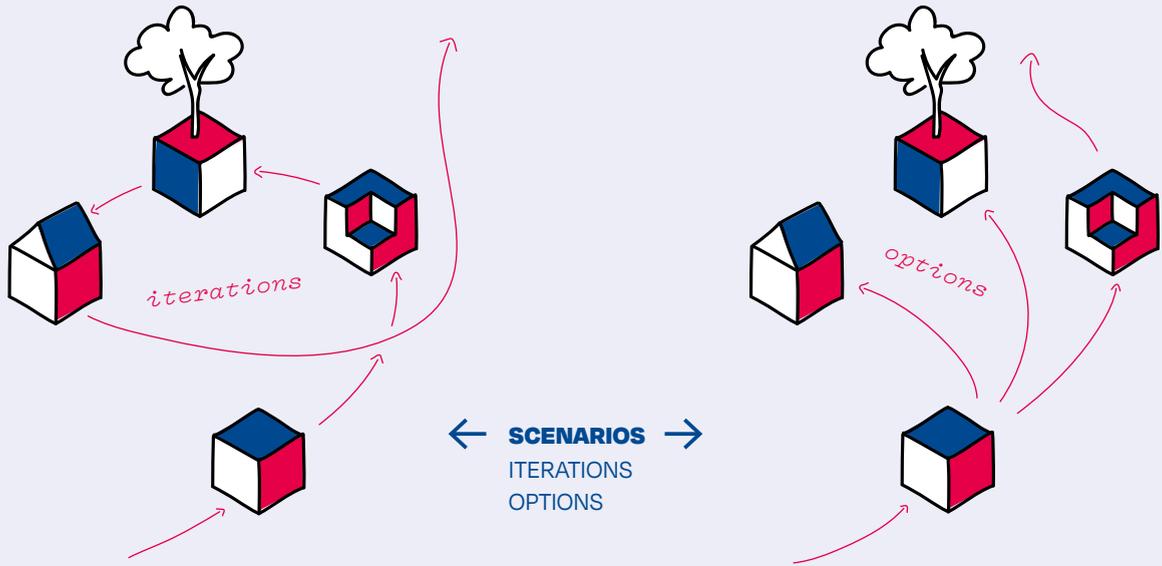


FIGURE 33 Negotiations about the future and scales of play.
Source: author, 2021.

negotiation, although not every game has to have a winner. Time is up when a winner is found, or too many players decide to leave the game, and the game therefore becomes irrelevant, or a different game all together (—starting all over again, with new rules and players).

In the following, a few examples from the PAR process are given.

The visual language of cubes applies through describing each session of implementing play on the scale of one single cubic unit. This scale is similar to how many humans perceive and structure parts of their daily life. Therefore, this is the unit which determined the main scale of structuring the game sessions during the PAR process (Figure 30). Looking beyond play, as intentionally implemented during the research process, it can be found in moments of everyday life. The situation captured in Photo 22 and the encounter with people in Woodlane Village are examples of such situations.

On a rather small scale, games of very brief human interactions occurred during many playful activities, such as small fractions of playing with a ball in Mamelodi or Woodlane Village. Moments of trying to read another persons' subtle hints of expressing thoughts or feelings, fall into that category. Any longer interaction between different players consists of several small-scale games.

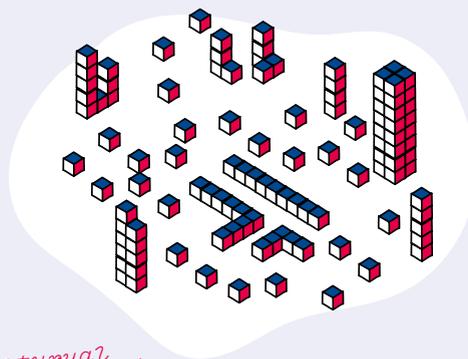
Small-scale play appears to be recognized easier, if the number of participants is limited to only a few. It avoids distractions, and gives players the chance to deal with details of the game/interaction.

Larger scale examples of play during the research process applied when agglomerations of games interact with each other. Negotiations and conversations between actors, such as the student and research team, local citizens, international partners, NGOs, and others, constitute the players. The mere fact of me entering the space of intercultural interaction, consists of a long prelude of interactions with people from different Universities, individuals, and organizations. The rules usually increase in complexity, as the scale and scope of a game become wider.

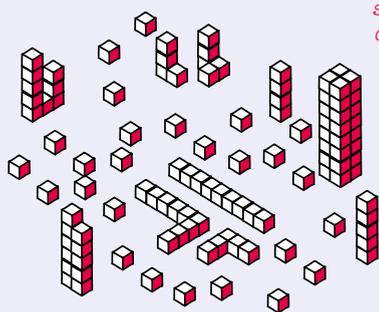
In an urban scenario the game environment can vary strongly. Figure 34 suggests that it can be focused on, for example: a specific area, built structures, the space in-between structures, or small-scale objects. This distinction can help to describe certain characteristics of games related to space. Those environments can be considered urban systems, which are strongly interconnected.

Corbett and Fikkert (2012), in their book *When Helping Hurts: How to Alleviate Poverty Without Hurting the Poor and Yourself*, describe the interconnection between systems and humans as follows: “[p]eople affect systems, and systems affect people” (ibid, p. 56). Beyond “stating the obvious”, this statement becomes relevant if *formal* and *informal* systems are taken into account. Games seem to carry

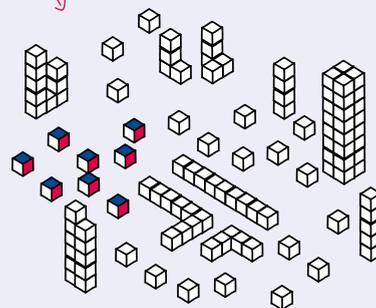
URBAN ENVIRONMENT →
SOCIO-SPATIAL CONTEXT,
SCALES AND SYSTEMS



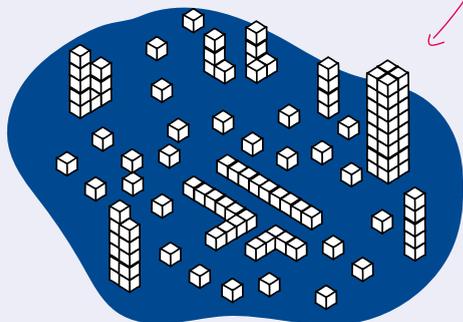
*structural
aspects*



*area,
region*



*the space
in-between*



*small scale
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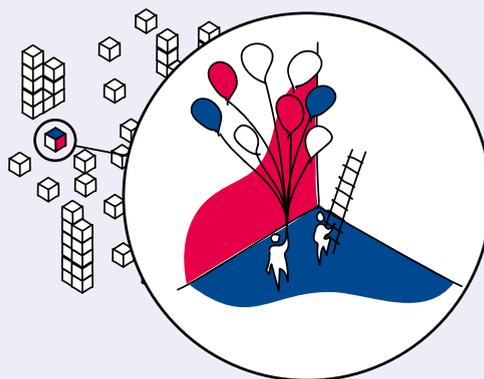


FIGURE 34 Urban systems of play in different scales and themes.

Source: author, 2021.

potential to relate informal and formal systems. As shown in Figure 35, Poplin (2012) argues that *play* is a subset of *game*, which again is a subset of *play* (p. 197). The terms relate simply through the action of *playing a game* (Devisch et al., 2016, p. 84). Nesting of *paidia* and *ludus* into one activity, creates a low threshold opportunity to connect formality and informality. This matter will be discussed in further detail on page 178.

Exploring this dimension shows that play occurring on different scales appears highly complex. An in-depth discussion would go beyond the research focus of this thesis.

Furthermore, games seem to be a well-suited method for co-creation. Implementing iterative processes can add much value to the co-production of knowledge. This idea will be covered in further detail in the next chapter about the dimension of co-creating ideas (see page 164).

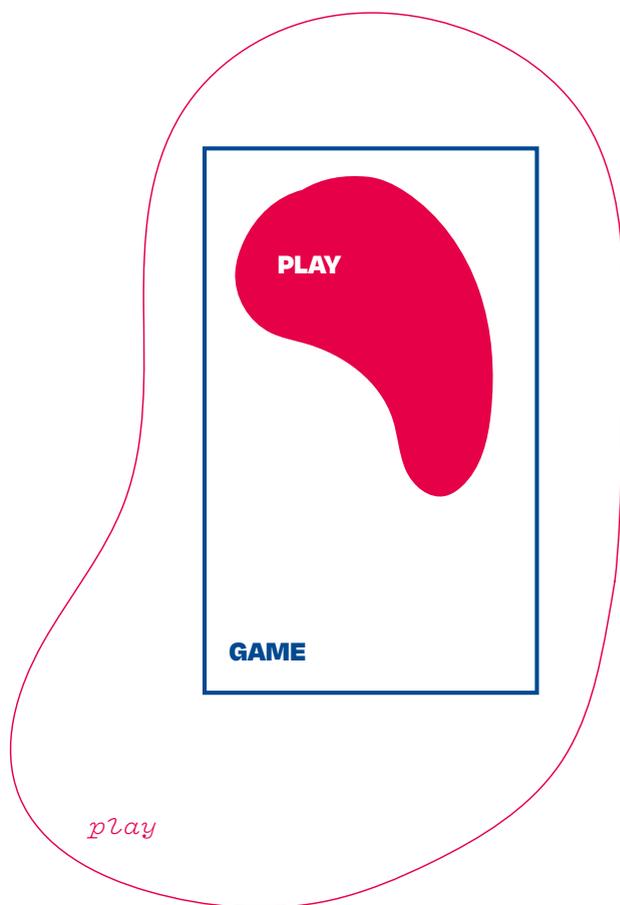


FIGURE 35 **Interconnection of games and play.**
Source: Poplin, 2012, p. 197.



PHOTO 21

Exploring the future of Melusi through playing with 3D models.

Source: author, 2021.



PHOTO 22

Play, as it occurs in human interaction of daily life, such as buying something at the counter (left), or playing a board game (right).

Source: author, 2021.



5.1.6

CO-CREATING IDEAS

Many placemaking projects depend on relevant data and knowledge. As illustrated in Figure 36, games can be used to co-produce knowledge. This can be accomplished through either using the game outcome or analyzing what happens during play itself. Both methods can be useful and deliver valuable ideas which can feed back to the co-production of spatial transformation.

In Melusi, a game called, “Water you thinking about?”⁵³, was primarily used to co-produce knowledge from observing and interacting with players during the game. The game setup represents a simplified version of a water management infrastructure. While playing, the participants discuss how different kinds of water are supposed to be used according to their opinion. It encourages reflecting on real-life activities related to water usage and opens up opportunities for conversations about the topic. The Melusi project team reported that observing children while playing the game delivered useful insights to inform their project development. (See Photo 24)

“Paper Plate Party” is an example of using a game to collect information. Participants were asked to answer different questions about their eating habits by filling a (paper) plate with different kinds of food (stickers). The data was used to inform the project about water infrastructure in Melusi. (See Photo 23)

*Unfolding Stories*⁵⁴, an online collaborative story writing game, was played twice by the Mamelodi project group.⁵⁵

The first session served to find a common theme within the student team working in Mamelodi. Examples for such topics are: identity, belonging, urban interior, places of knowledge exchange, etc. They collaboratively explored a narrative which later served as a common ground to base their project on. In this case, the outcome of the game—or rather the reflection among the players on the result—formed the project development.

In the second occasion of using *Unfolding Stories*, it was played with adolescents from Mamelodi. This time the goal was to explore a story of a dictionary⁵⁶ that makes its way through Mamelodi East. An ongoing video call with all players provided the opportunity to talk during the game and joke about what was written.

In the first case, the game outcome proved to be beneficial for further narrowing the focus of the students’ project. Whereas in the second case the process of playing appeared to be more valuable. The idea of co-producing a story seemed to be strongly present and led to an open exchange about thoughts about Mamelodi.

Games can be used to generate data. Collected data (insofar as relevant) should be used to ultimately improve urban living conditions. In the

⁵³ <https://www.publicplayspace.eu/symposium-posters/>
⁵⁴ <https://unfoldingstories.app/>, <https://info.unfoldingstories.app/>
⁵⁵ Both stories can be found in the appendices.
⁵⁶ See page 134.



FIGURE 36 Co-creating ideas through iterations of play.
Source: author, 2021.

context of this work, these include: infrastructures of food supply, access to tap water, sanitary conditions, safety of public space, etc.

However, data collection is often strongly influenced by euro-centric thinking. Therefore, it may not recommend to use games for mere data collection. Many critical questions about data collection have to be asked beforehand: Who collects data? From whom? For which reason(s)? Who has the right to collect data from/about somebody else?

Furthermore, the following needs to be considered before implementing games and interpreting the co-created ideas: It is important to consider possible distortions due to biases of players and facilitators, or misunderstandings of rules. Experience from the field research shows the following examples: language barriers, level or form of educational background, etc.



PHOTO 23

Playing the game “Paper Plate Party” in Melusi.

Source: author, 2021.



PHOTO 24

Playing the game “Water You Thinking About?” in Melusi.

Source: author, 2021.



5.1.7

PLAYING SPACE

One reason why games are being played in the first place is because of their potential to contribute to human interaction. Looking at serious games, this feature is of high interest, especially in settings of intercultural collaboration.

The initial phases of collaborative processes, such as getting to know each other, and their impact on further development of the process, are not to be underestimated. When the true potential of *Paid-ia* is revealed, it shows how important play can be for co-design processes. Multiple occasions in Mamelodi support this hypothesis. At the beginning of the second and third sessions, several short games were played, simply to encourage social interaction. Examples are shown in Figure 37 (bottom-right), and Photo 25.

Another aspect of play related to space becomes evident, when looking at *where* play is taking place—in a spatial sense. Playing a ball game needs space, such as a soccer field or volleyball court. Places that have no specific purpose of use assigned to them (sometimes identified as “flexible space”), get a temporal definition through their current occupation (Figure 37, bottom-left). In German, this phenomena can be called *bespielen* (English.: *play on*), referring to *spielen* (English.: *to play*). In Woodlane Village, when play emerged with local children, the space around the big tree, which is used for church service on Sundays, became a playground for a few hours. It can be argued, that we co-created the space for a certain amount of time, and therefore are placemakers of our own playground (Photo 26).

Afterward, the people who took part in the church service made this exact same space theirs, and *made* this *place* into a place of spiritual activity.

As already discussed in the previous chapter (page 164), social norms need to be considered whenever games are used to co-produce knowledge. A visual interpretation of this issue is illustrated in Figure 37 (top). It shows how many questions may have to be answered before implementing a game. Because it is nearly impossible to clarify all potential ambiguities beforehand, being aware of their existence is a first and necessary step towards a functioning intercultural collaborative process.

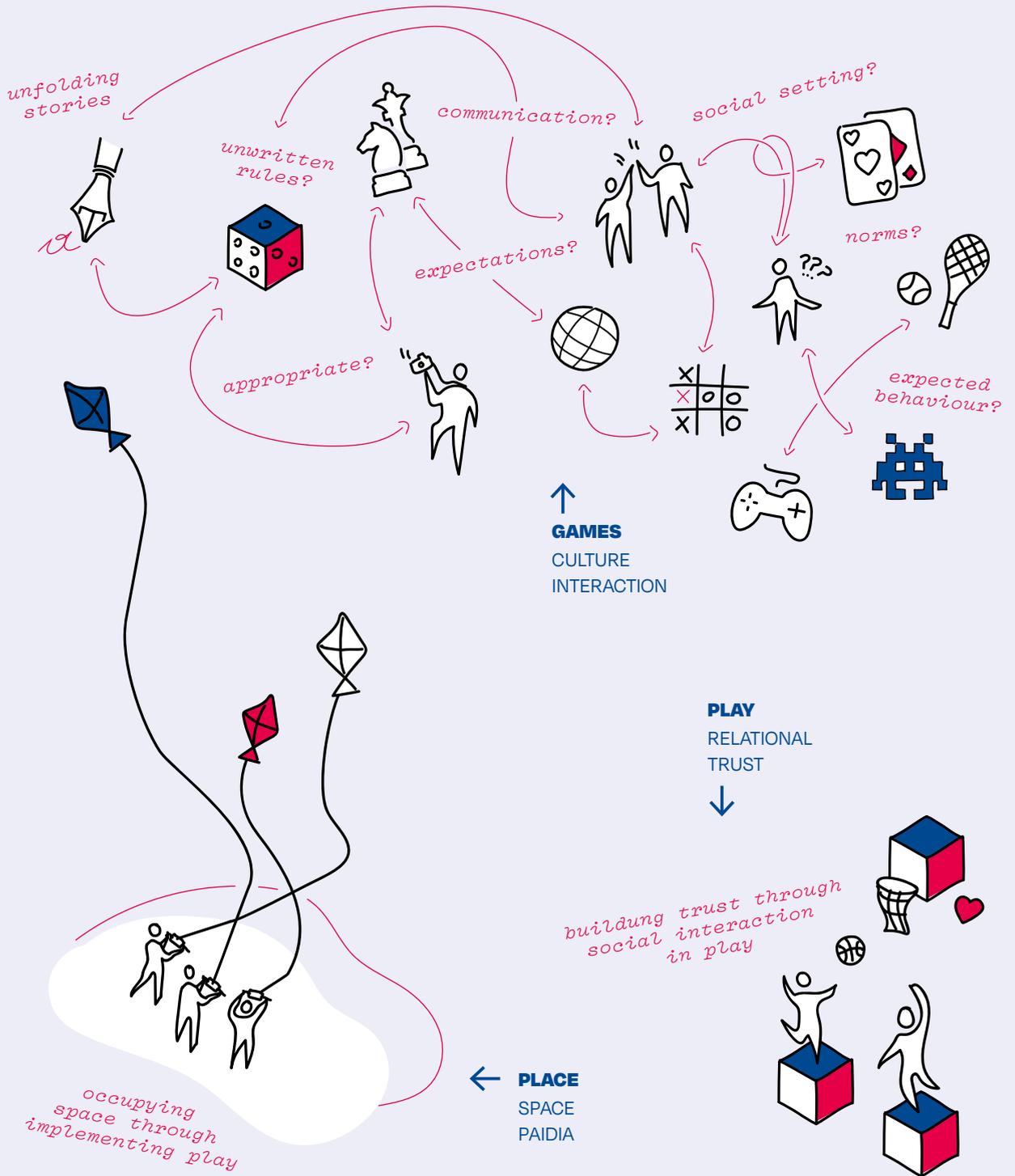


FIGURE 37 Occupying space through play.
Source: author, 2021.



PHOTO 25

Playing ball games at UP Mamelodi Campus.

Source: author, 2021.



PHOTO 26

Co-creating a temporal playground under a big tree in Woodlane Village.

Source: author, 2021.

5.2

CRITICAL REFLECTIONS

5.2.1

REFLECTION ON THEORY AND METHODOLOGY

This chapter contains a short discussion about the theories mentioned in this work, as well as a critical reflection on the methodological approach used to conduct the research at hand.

Regarding the theories studied in the beginning of this work, it seems important to mention that a shift has taken place during the process of conducting the research. Especially regarding the stakeholder analysis tools (as described on page 37), experiences from the field have led to a critical perspective on applying such approaches in development practice. During the field activities in South Africa, I learned that there are things happening beyond stakeholder diagrams and game systems. I am not suggesting that stakeholder diagrams or systems cannot be helpful or should not be used. However, when trying to collectively strive for socio-spatial transformation, mutual learning and trying to understand each other's perspective appears equally important. Even more so, if people with different cultural backgrounds meet to co-produce knowledge. This seems to be true throughout all parts of co-creative processes.

Concerning the PAR, the following can be said: It remains questionable whether European researchers have the right to introduce new ideas and concepts about games to another community. Games appear to provide a natural and personal context for valuable intercultural communication, yet they may not be applied carelessly. The implementation of certain games can lead to subconsciously imposing euro-centric epistemological norms upon others.

Another issue is the different point of departure, when it comes to intercultural communication, specifically between people with major differences in terms of financial resources. This becomes clearly noticeable in the following scenario: The mere existence of the opportunity to just leave the slum whenever it gets too "uncomfortable" or "overwhelming", drastically changes the rules of players involved. Such power-related differences are often linked to the following phenomenon: The privilege of opportunity appears to directly translate to power inequalities; which can lead to feelings of "[...] shame, inferiority, powerlessness, humiliation, fear, hopelessness, depression, social isolation, and voicelessness" (Corbett & Fikkert, 2012, p. 51). Such terms are often used by poor people to talk about poverty. On the other hand, non-poor

***Getting it wrong
is part of getting it right.***

- Handy, 1973 -

people⁵⁷ "tend to emphasize a lack of material things such as food, money, clean water, medicine, housing, etc" (*ibid*). Considering that poverty is not a mono-dimensional problem of material possessions—or the absence of such—it appears to be the case that prosperity creates opportunity, which in return leads to increased material possessions. One way of dealing with such challenges, is "playing" within a setting that uses intentionally established rules. They can help to invalidate social rules that would otherwise reinforce the difference of power inequality. The implications for introducing rules into a social setting in the form of a game, are discussed in further detail on page 176.

Concerning the method of using games to inform urban and architectural processes, it was found that games were useful throughout all stages of a project development, for example:

The project team working in Melusi developed a proposal for a step-by-step implementation of small changes dealing with the following topics:

water infrastructure, trees and plants, building materials ("eco-bricks"), and waste management.⁵⁸

The Mamelodi project team produced the so-called *Handbook S'pitori*, including a spatial dictionary using words, illustrations, and pictures to describe how adolescents perceive the built environment in Mamelodi. Kirstin Niebuhr continued this project as her Master Thesis, designing the *Elke[bitso] Pavilion*.⁵⁹

Because the games which were co-designed as part of the PAR process were useful to the project development of the students' groups, it seems reasonable to assume that organizations (e.g. NGOs, CBOs, etc.) working in the urban development practice can profit from the study at hand as well.

⁵⁷ This specific example of *non-poor people* refers to a North American context.
⁵⁸ Excerpts of the mentioned projects designed in Melusi can be found in the appendices on page 238.
⁵⁹ Excerpts of the mentioned projects designed in Mamelodi can be found in the appendices on page 244.

5.2.2

THE POWER OF RULES IN SOCIAL SETTINGS

The potential of playing games remains upright, regardless of their origin or cultural context. Introducing rules to a social setting allows humans to *play* together without thinking about what they are supposed to do (outside the set of rules agreed upon), or how they should behave in certain social settings. Because within any game a new set of rules for intercultural interaction is established, and used for all kinds of communication, rules *outside* the game can be temporarily overwritten and therefore set aside for the duration of the game. (Figure 37)

However, there are limits to setting rules for games. In sports, players agree to a set of rules to compete within those accepted boundaries, to determine who is better at playing a certain game. The more regulated the sport, the more specific a certain skill(-set) can be compared.

American Football, for example, has a large number of rules which are complex to understand and apply. Everything that happens within those rules is precisely defined and has clear consequences for the player or the whole team. Arguably, personality traits are mostly irrelevant, because they are not part of the rules.

For people who are frequently rejected in casual social situations, playing American Football can be an opportunity to demonstrate their skills, without having to deal with much social interaction that would usually occur outside the game context. One can argue that a game can “switch on/off” certain parameters, that would apply otherwise. Therefore, no other skills or traits are rewarded *per se*, but solely the skill to play the game by following the rules.

The number of factors excluded from the rules does not make the parameters included any less relevant, meaning that the competition within the game is “real”.

Although in a game technically the same rules apply to all players, this does not mean that all players have the same chance to win.

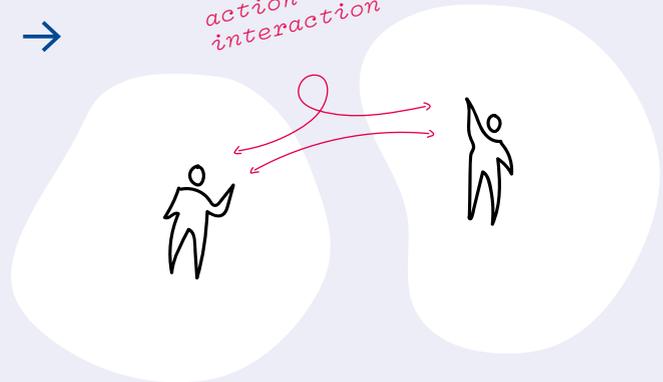
Rules can have enormous power to make people compete or cooperate within a new system of rules. Culture can subconsciously translate into play: For example, through not being able to include relevant topics of a community into a game, though embodying cultural norms into the rules of a game, or through applying a perspective of time into a game that differs from the local perception of time. Therefore, careful implementation is suggested, because the effects might lead to potentially ambivalent dynamics.

During the PAR process it was not always evident when rules were helping to create a more equitable environment or disadvantageous to do so. However, in cases where it is apparent that rules are helping to ensure an equitable play session the following suggestion can be made: Keep the rules of a game flexible enough to adapt to different characteristics of players/participants. Another reason for keeping rules flexible is the potential limitation of diversity. Rules can be too restrictive and restrain the value of vibrant thoughts and ideas of players.

HUMAN INTERACTION
SOCIAL AND CULTURAL
NORMS AND RULES



action & interaction



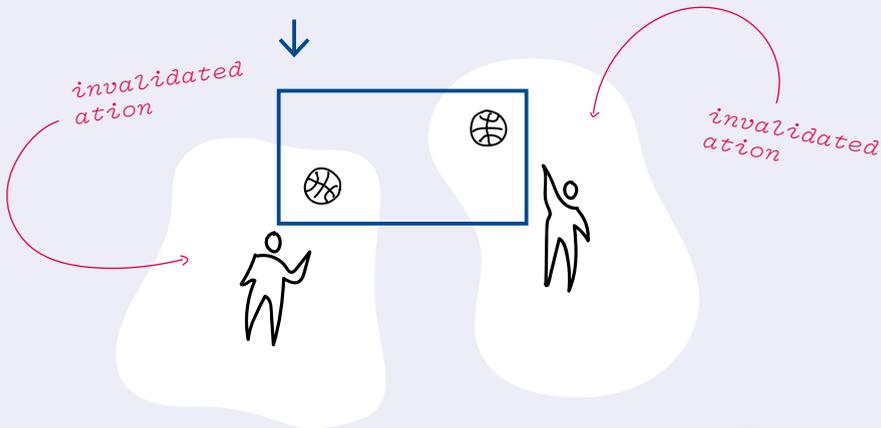
BALL GAMES
INVALIDATE ACTIONS,
SUBTRACTING FROM "REAL LIFE"



invalidated action



invalidated action



ROLE PLAY
ENABLE ACTIONS,
ADDING TO "REAL LIFE"



enabled action

enabled action

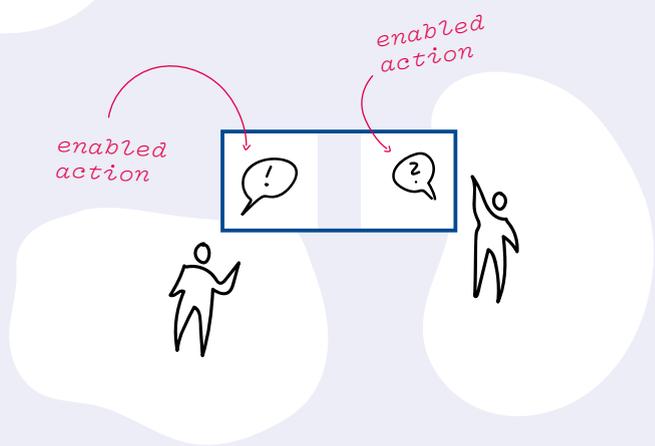


FIGURE 38 The power of rules in the intersection of play and human interaction.
Source: author, 2021.

5.2.3

LUDUS AND PAIDIA TO OVERCOME (IN)FORMALITY

Relating to the tension between formality and informality as discussed earlier in this thesis, games offer the potential to combine formal and informal systems. However, before making any suggestions regarding this highly controversial topic, it seems important to mention the following:

Dualistic thinking carries the risk of judging situations based on a narrow lens of binary concepts. Personal biases can reinforce a dualistic perception of circumstances. Duality can easily become a separating force for seemingly opposing concepts.

Furthermore, informality is hard to deal with, using tools produced by a formal infrastructure dominated by a euro-centric mindset. Because of this difficulty, informality is sometimes neglected by western thinkers. There is hardly any doubt that humans are capable of creating systems that are too complex to be captured by any formal methodology. Therefore, viewing order (formality) as a solution to chaos (informality) should be reflected upon critically.

However, thinking in seemingly opposing concepts can still be useful, especially when aiming at creating a potential connection. This idea appears relevant when concepts that are frequently related to formality and informality connect to each other. Figure 39 shows an exemplary number of terms that may be connected to formality/informality. This observation suggests that games can be useful to overcome a binary perspective that renders these terms as opposing concepts. Poplin argues, that play is considered both, a broader concept than a game, and at the same time play is a subset of every game (Poplin, 2012, p.197).

The simultaneous occurrence of game and play can turn apparent opposing concepts into intertwined and mutually supportive ones.

There only is a thin line between emergence and design—in fact, it appears impossible to separate them at all. Most games contain both emergent and designed elements (Hofstätter et al., 2014). Because they can occur simultaneously and are strongly connected, a case for games and play connecting emergence and design can be made.

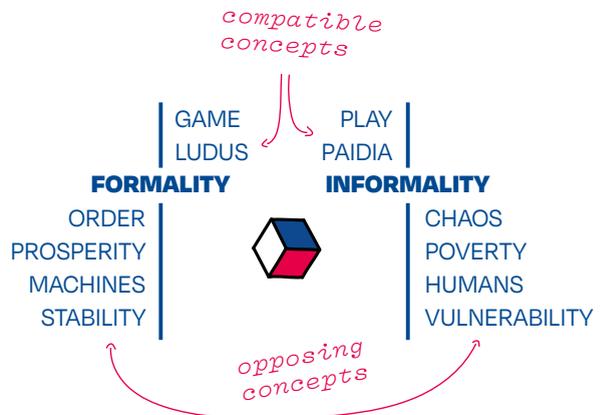


FIGURE 39 Games and play to overcome a binary perspective on (in)formality. Source: author, 2021.

5.3

CONCLUSION

5.3.1

CONCLUSIONS AND IMPLICATIONS

The thesis at hand aims to explore how games and playful activities can be useful tools and methods for co-producing socio-spatial knowledge. A research trip to South Africa made it possible for the games to be developed, tested, and evaluated in the field. Critical reflections reveal ambivalent conclusions: Games and play show high value for the co-production of socio-spatial knowledge. However, their implementation should be used with special care and adequate consideration.

Many questions may have to be answered before implementing games in an intercultural context. Because it is nearly impossible to clarify all potential ambiguities beforehand, being aware of their existence is a first and necessary step towards a more inclusive co-design process.

Implementing games may subconsciously impose questionable euro-centric norms upon others. This can happen through translating culture into play. For example, through not being able to include relevant topics of a community into a game, through embodying cultural norms into the rules of a game, or through applying a perspective of time into a game that differs from the local perception of time. Therefore, using serious games and playful activities as a method or tool for design requires careful

consideration and learning about the cultural understanding of games, their origins, and practice of play. Collectively striving for a horizontal and inclusive dialogue, seems to raise the relevance of mutual learning and genuinely trying to understand different perspectives.

Regarding the field of architecture and urban planning, the following implications can be drawn: A potential bias caused by education to design environments *for* others can strongly influence the positionality of an urban professional. This bias can make it difficult to shift towards a more inclusive approach of co-production and to designing *with* others. Because many games naturally combine a number of complex matters and offer valuable social characteristics, adding games to the methodological toolbox of urban professionals can contribute to overcome this challenge.

Hope remains that other urban professional can also learn from this experience. The conclusion and implications might provide a basis for a more sensitive positionality towards co-production in the urban environment.

5.3.2

FURTHER RESEARCH AND OUTLOOK

Different methods and games were designed to conduct research about the co-production of socio-spatial knowledge. Further investigations and iteration can be implemented for future research. The following suggestions can be made:

Complex systems can be valuable to better comprehend and/or interpret urban structures. Because games and play contain both formal and informal concepts, they can be useful to further conduct in-depth research.

The three dimensions as used in the framework of analysis and interpretation for this work served to dissect the experiences from the fieldwork. Because the dimensions were chosen according to personal perception of the author, a different categorization and analysis might reveal new insight.

Photographs served as an important part of the research methodology. A different form of further investigation can be conducted through research on an intersection of participatory photography and socio-spatial analysis.

The online storytelling game *Unfolding Stories* was used multiple times during the research process. It is being further iterated and developed through its current engagement within educational institutions as well as corporate firms. The game also holds the potential to be used in future co-creative processes.

The games co-created and implemented as part of this work can be further developed and adapted to be used in different contexts. This can help to further explore games as a design method.

Compiling a collection of serious games and playful activities could form part of an architect's methodological tools box.



PHOTO 27

Two men playing a local board game in Woodlane Village. [Cover image].

Source: author, 2021.



EPILOGUE

This journey has taught me many things, some of which I might only be able to understand in many years from now.

There might have been times when I doubted whether architecture was the right choice for me to study. And that's okay. It has been fun, depressing, exciting, frustrating, encouraging, chaotic, cost me a lot of money (spent on models, prints, and coffee), enjoyable, exhausting, and after all: worth it.

As this chapter is coming to an end, many memories captured in thoughts and feelings remain. This project has taken me to places—geographical and intellectual—some of which I was not even aware of their existence. The many people I met along the way have helped me to reflect upon my perception of poverty, design, cultures and values. One thing I hope to know, is that this journey is not over, it is just another step of a life-long learning process.

Producing this work has been unimaginably insightful to me. All that I am left with in the end, is a glimpse of hope that it can be a source of inspiration to others.

Let's keep the dice rolling.

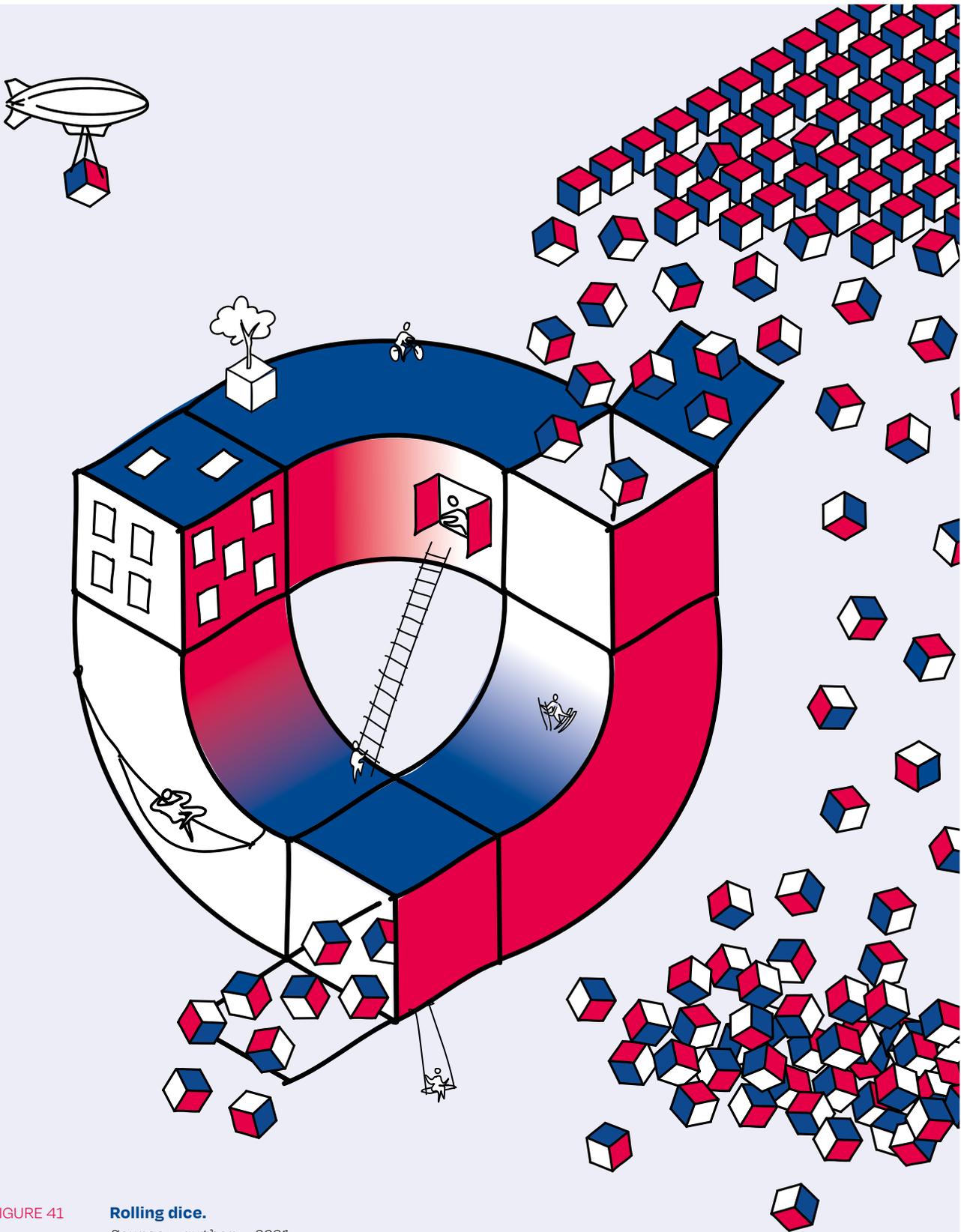


FIGURE 41

Rolling dice.

Source: author, 2021.





REFERENCES AND APPENDICES

6.1

REFERENCES

6.1.1

LIST OF CONVERSATIONS

- November** **Official initial meeting about collaboration**
2020-11-19 1h Online
Emílio da Cruz Brandão (CTH), Dr Carin Combrinck (UP), Markus Zorn
Formal meeting about collaboration between the thesis project at hand with Reality Studio (CTH) and Urban Citizen Studio (UP).
- December** **Informal conversation**
2020-12-01 1h Phone call
Purll Naidoo, Markus Zorn
Semi-private conversation about serious games and how they can be used in cross-cultural stakeholder collaborations to inform architecture and planning projects.
- Informal meeting**
2020-12-22 1h Online
Marco Adelfio (CTH), Markus Zorn
Formal, semi-structured interview about stakeholder network theory and systems thinking.
- Semi-structured interview**
2020-12-22 1h Online
Todd Nicewonger, Markus Zorn
Informal meeting about anthropological and ethical concerns regarding intercultural co-creation.
- 2021**
- January** **Semi-structured interview (EMI)**
2021-01-19 2h Online
Matthew Moeckel (EMI), Markus Zorn
Formal meeting about current challenges as a local NGO to run projects during the Covid-19 pandemic and its restrictions.
- February** **Informal meeting (ASF Int.)**
2021-02-04 1h Online
Ena Sredanovic (ASF International), Robin Eskilsson, Mumtaheena Rifat, Markus Zorn
Formal meeting to discuss relations between international and local NGOs.

Semi-structured interview (POCAA)

2021-02-08 1h Online

Mahmuda Alam (POCAA), Robin Eskilsson, Mumtaheena Rifat, Markus Zorn

Formal meeting about the NGO and CBO landscape in Bangladesh.

Semi-structured interview (UNICEF, IOM)

2021-02-11 1h Online

Samia Aboni (UNICEF), Khwaja Fatmi (IOM), Robin Eskilsson, Mumtaheena Rifat, Markus Zorn

Formal meeting about the challenge of refugees and women living under they weight of cultural, political and religious (Islamic) narratives and norms, and epistemological framework which can be applied in working in such contexts.

March

Informal meeting

2021-03-08 1h Online

Dr Carin Combrinck (UP), Markus Zorn

Preparatory meeting for research trip.

Semi-structured interview (AoGA)

2021-03-10 1h Online

Evamaria Schmidthaler (AoGA), Daniel Gutmann (AoGA), Claudia Pirchl (AoGA), Robin Eskilsson, Mumtaheena Rifat, Markus Zorn

Formal meeting about previous project experiences, cross-cultural architecture project development, and participatory design processes.

Reality Studio workshop session

2021-03-11 3h Online

Reality Studio students¹, Emílio da Cruz Brandão (CTH), Liane Thuvander (CTH), Markus Zorn

Workshop: "Toolbox week II", Introduction of "A collection of collaborative methods and serious games for remote collaboration in community development projects, draft v.1.0".

March 20th Beginning of field study activities

Reality Studio tutoring session

2021-03-23 3h Online

Reality Studio project teams (CTH & UP), Emílio da Cruz Brandão (CTH), Dr Carin Combrinck (UP), Liane Thuvander (CTH), Shea Hagy (CTH), Larry Toups, Markus Zorn

Reality Studio tutoring session and discussion about current project development with project teams working in the following contexts: Woodlane Village, Mamelodi, Melusi.

1

Reality Studio students, according to project teams:
South Africa: Adam Torsten Erik Elinder, Ellen Boman, Joel Sidenvik, Jonathan Naraine, Juliana Jonasson Lindqvist, Lina Zachrisson;
Bangladesh: Dominika Komisarczyk, Nelson Mouketa, Sara Eidenvall, Sofia Samuelsson;
Kenya: Ana Sofia Guerra Machado, Cornelia Ahlstedt, Rosanna Hansenäs;
Lebanon: Amitis Fouladi, Barne Haferkamp, Karl Sandman, Marie Middendorf;
Argentina: Julie Reisse, Leonardo David Casanova Ochoa, Marcela Anna Dzieciatkowska, Miriam Napadow.

Co-design game development session

2021-03-24

5h

Pretoria, Starbucks (Menlyn Maine Mall)

Jua Greeff, Juliana Achi, Jonathan Naraine (online), Adam Elinder (online), Markus Zorn

Game development session and discussion about how games can inform their project development, how to adjust games to certain age groups of players, and what the main goals of playing the games should be.

Mamelodi workshop session 1

2021-03-25

3h

Pretoria, Mamelodi Campus

Kirstin Niebuhr, Jade van Staden, Ellen Boman (online), Joel Sidenvik (online), UP Honours students², 14 Teenagers from Mamelodi (age 16-17), Dr Carin Combrinck (UP), Markus Zorn

Mapping workshop session 1: testing remote (active and passive) participation of CTH and UP students in the workshop activities via internet call.

Co-design game development session

2021-03-26

1h

Online

Jua Greeff, Juliana Achi, Jonathan Naraine, Adam Elinder, Markus Zorn

Co-design game development session and discussion about implementation.

Reality Studio tutoring session

2021-03-23

3h

Online

Reality Studio project teams (CTH & UP), Emílio da Cruz Brandão (CTH), Dr Carin Combrinck (UP), Liane Thuvander (CTH), Shea Hagy (CTH), Larry Toups, Markus Zorn

Reality Studio tutoring session and discussion about current project development with project teams working in the following contexts: Mamelodi, Melusi, Dhaka.

Melusi workshop session 1

2021-03-28

4h

Pretoria, Melusi

Jua Greeff, Juliana Achi, Jonathan Naraine (online), Adam Elinder (online), Hlakudi Gert Malatji (MYDO), Thabitha Milgret Tladi (Regae Preschool of Hope), children from the Regae Preschool of Hope, children from MYDO, Markus Zorn

Game testing session 1: drawing and molding (modeling clay) activity with younger children; "Paper Plate Party" game session; testing remote (mostly passive) participation of CTH students during the game sessions via internet call.

Reality Studio tutoring session

2021-03-29

3h

Online

Reality Studio project teams (CTH & UP), Emílio da Cruz Brandão (CTH), Dr Carin Combrinck (UP), Liane Thuvander (CTH), Shea Hagy (CTH), Larry Toups, Markus Zorn

Reality Studio tutoring session and discussion about current project development with project teams working in the following contexts: Mamelodi, Melusi, Dhaka.

2

UP Honours students: *Thabi Dhlamini, Johan Grobler, Ruchelle Taljaard, Robyn Forte (online), Kithue Masu, Carla Pistorius*

April

Mamelodi workshop session 2

2021-04-01 3h Pretoria, Mamelodi Campus
Kirstin Niebuhr, Jade van Staden, Ellen Boman (online), Joel Sidenvik (online), UP Honours students³, 16 Teenagers from Mamelodi (age 16-17), Dr Carin Combrinck (UP), Markus Zorn
Mapping workshop session 2; testing remote (active and passive) participation of CTH and UP students in the workshop activities via online call.

Informal meeting

2021-04-06 1h Online
Ashley Howard, Robin Eskilsson, Mumtaheena Rifat, Markus Zorn
Meeting about research on intercultural collaboration, especially regarding neo-colonialism, referring to Escobar (2018) *Designs for the Pluriverse - Radical Interdependence, Autonomy, and the Making of Worlds*; difference between being "reflective" and "reflexive" on positionalities.

Formal meeting (Play Africa)

2021-04-07 45min Online
Rachel Fowkes (Play Africa), Zviko Kanyoka (Play Africa), Martine Demba (Play Africa), Kirstin Niebuhr, Jade van Staden, Ellen Boman, Joel Sidenvik, Markus Zorn
Initial meeting about potential collaboration between the Mamelodi team and Play Africa⁴.

Melusi site activity

2021-04-07 4h Pretoria, Melusi
Hlakudi Gert Malatji, Jua Greeff, Juliana Achi, Hlakudi Gert Malatji (MYDO), Thabitha Milgret Tladi (Regae Preschool of Hope), Markus Zorn
Handing out consent forms to the teachers, to get them signed by the parents to allow us to work with their children; long conversation with Hlakudi Gert Malatji from MYDO.

Recap: Melusi site activity

2021-04-08 4h Online
Jua Greeff, Juliana Achi, Jonathan Naraine, Adam Elinder, Markus Zorn
Recap of why and how the major communication issues emerged the day before; explaining to the Jonathan and Adam; introducing "Play Africa" to the project team, for potential collaboration in planning and running workshops on site.

Bangladesh team: Interivew about games

2021-04-13 30min Online
Sofia Samuelsson, Sara Eidenvall, Dominika Komisarczyk, Nelson Mouketa, Markus Zorn
Conversation about how the team working on Dhaka implemented games in their project development process, and how they collaborated with locals to facilitate the game session with children.

Co-design game development session

2021-04-13 4h Pretoria, at home
Kirstin Niebuhr, Markus Zorn
Developing a language game, to inform a *Spitori* (local language, spoken in Mamelodi) dictionary; general preparations for the upcoming workshop session.

³ UP Honours students: *Thabi Dhlamini, Johan Grobler, Ruchelle Taljaard, Robyn Forte (online), Kithue Masu, Carla Pistorius.*

⁴ <https://playafrica.org.za/>

Co-design game development session

2021-04-14 3h Online

Jonathan Naraine, Adam Elinder, Markus Zorn

Update on a potential collaboration with Play Africa and the Melusi team; Co-design session to further develop two games for the upcoming workshop.

Mamelodi workshop session 3

2021-04-15 3h Pretoria, Mamelodi Campus

Kirstin Niebuhr, Jade van Staden, Ellen Boman (online), Joel Sidenvik (online), four participants from Mamelodi⁵ (age 16-17), Markus Zorn

Playing different ball games as a warm-up exercise, including a local game, called "Mabitsha"; playing an adapted version of the "Boggle", to learn about the local language *Spitori*.

Melusi workshop session 2

2021-04-19 4h Pretoria, Melusi

Jua Greeff, Juliana Achi, Jonathan Naraine (online), Adam Elinder (online), Hlakudi Gert Malatji (MYDO), Thabitha Milgret Tladi (Regae Preschool of Hope), children from the Regae Preschool of Hope, children from MYDO, Markus Zorn

Playing a game related to nutrition including a "food-sticker-buffet" with the younger children at the Regae Preschool of Hope; playing a game about drawing an guessing food with the children from MYDO, including a conversation about food and nutrition after playing the game.

Melusi team game design session

2021-04-20 1h Online

Jonathan Naraine, Adam Elinder, Jua Greeff, Juliana Achi, Markus Zorn

Co-design session to further develop two games for the upcoming workshop.

Formal meeting (Play Africa)

2021-04-21 45min Online

Rachel Fowkes (Play Africa), Ellen Boman, Joel Sidenvik, Markus Zorn

Conversation about the Play Africa curriculum, concerning content, structure and accessibility.

Melusi workshop session 3

2021-04-22 4h Pretoria, Melusi

Jua Greeff, Juliana Achi, Jonathan Naraine (online), Adam Elinder (online), children from MYDO, Hlakudi Gert Malatji (MYDO), Markus Zorn

Building and playing a cooperative game about water usage; discussion about water as a resource and the child's perspective on water, sanitation, and the nearby pond.

Woodlane Village live-build session

2021-04-23 6h Pretoria, Woodlane Village

Alexia Katranas, Chris de Bruin, Delani Kriek, Nicholas Ramsey, Alexander Mbedzi, UP Honours students⁶, Markus Zorn

Live-build session on site and conversations with locals about potential uses of the new structure; exploring a local board game and learning how to play it.

Woodlane Village site activity

2021-04-25 4h Pretoria, Woodlane Village

Charlotte Swart, Markus Zorn

Attempt to join a local church service; spontaneous play with children and encounter of toys.

5 Workshop participants: *Simpfiwe Shika, Mungiseleli Ngejane, Mungisi Ngejane, Kgaugetlo Bokaba.*

6 UP Honours students: *Anniqwe Haese, Charlotte Swart, Wessel Ebersohn, Ingrid Schmutz, Naseera Goga, Nicholas Hudson, Ryan Meij.*

May

Conversation with Pieter de Vos (documentary photographer)

2021-05-05 2h Online

Pieter de Vos, Kirstin Niebuhr, Markus Zorn

Learning from Pieter's experience of working in Woodlane Village and his approaches to ethical concerns in documentary photography; questions and topics discussed throughout the conversation: how to tell stories with photographs, how to help the viewer understand a certain issue without enforcing stereotypes, the agency of photography.

Co-design project development session

2021-05-06 1h Online

Jua Greeff, Juliana Achi, Jonathan Naraine, Adam Elinder, Markus Zorn

Online meeting to discuss outcomes and learning from previous workshops, and how to implement improvements for upcoming sessions.

Melusi workshop session 4

2021-05-11 3h Pretoria, Melusi

Jua Greeff, Juliana Achi, Jonathan Naraine (online), Adam Elinder (online), children from MYDO, Rachel Fowkes (Play Africa), Zviko Kanyoka (Play Africa), Markus Zorn

A number of adapted activities from the Play Africa Curriculum was tested, including drawing, model building with modeling clay, mapping, and others.

Mamelodi participatory photography: kick-off

2021-05-12 30min Pretoria, Mamelodi Campus

Kirstin Niebuhr, three participants⁷ from Mamelodi (age 16-17), Markus Zorn

Handing out disposable cameras with 27 exposures each and explaining the goals and guideline around participatory photography.

May 14th

End of field study activities

June

Mamelodi participatory photography: debriefing

2021-06-10 30min Online

Kirstin Niebuhr, three participants⁸ from Mamelodi (age 16-17), Markus Zorn

Discussing results and prior expectations from the photographs.

Mamelodi session: exploring narratives through game

2021-06-10 2h Online

Kirstin Niebuhr, three participants⁹ from Mamelodi (age 16-17), Markus Zorn

Playing Unfolding Stories¹⁰ to explore a fictitious story about the *Sitori* dictionary. The game result can be found online¹¹.

⁷ Workshop participants: *Simpfiwe Shika, Mulngiseleli Ngejane, Mungisi Ngejane.*

⁸ Workshop participants: *Simpfiwe Shika, Mulngiseleli Ngejane, Mungisi Ngejane.*

⁹ Workshop participants: *Simpfiwe Shika, Mulngiseleli Ngejane, Mungisi Ngejane.*

¹⁰ <https://unfoldingstories.app/>

¹¹ <https://unfoldingstories.app/Result/ZEX9dFc4>

6.1.2

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6.1.4

LIST OF FIGURES

FIGURE 1	Notes on the research questions; a list of hashtags the thesis refers to, is questioning, or does not be associated with. <i>Source: author, 2021.</i>	15
FIGURE 2	Thesis work processes: chronological outline and methods. <i>Source: author, 2021.</i>	18
FIGURE 3	The impossible knot of ethics in intercultural research. <i>Source: author, 2021.</i>	21
FIGURE 4	Common vision of finding creative connections through playful participatory practices in community development and spatial co-creation. <i>Source: Eskilsson, Rifat, author, 2021.</i>	23
FIGURE 5	French student Poster. In English, "I participate, you participate, he participates, we participate, you participate, they profit." <i>Source: A Ladder of Citizen Participation, Arnstein, 1969. [colors added]</i>	28
FIGURE 6	A ladder of citizen participation. <i>Source: A Ladder of Citizen Participation, Arnstein, 1969.</i>	29
FIGURE 7	Work plan: relating global and local contexts. <i>Source: Hamdi, 2010, p.66.</i>	32
FIGURE 8	Completing the project cycle: Community Action Planning (CAP) and Strategic Action Planning (SAP). <i>Source: Hamdi, 2010, p.159.</i>	33
FIGURE 9	Internal and external stakeholders. <i>Source: Caputo, 2013, p.75.</i>	38
FIGURE 10	Force-field analysis. <i>Source: Thomas, 1985, p.54.</i>	38
FIGURE 11	Classes of stakeholders. <i>Source: Caputo, 2013, p.77.</i>	39

FIGURE 12	Power-interest matrix. <i>Source: Caputo, 2013, p.76.</i>	39
FIGURE 13	Game thinking - What have you got? <i>Source: Marczewski, 2015.</i>	45
FIGURE 14	Connections of theories and potential questions for using games as design tools. <i>Source: author, 2021.</i>	47
FIGURE 15	Quotes from interviews that inspired and informed the research project. <i>Source: author, 2021.</i>	52
FIGURE 16	Relevant project collaborations. <i>Source: author, 2021.</i>	55
FIGURE 17	Geographical representation of project collaborations. <i>Source: author, 2021.</i>	58
FIGURE 18	Selected results from the survey about the Reality Studio workshop Toolbox week II. <i>Source: Eskilsson, Rifat, author, 2021.</i>	62
FIGURE 19	An attempt to trace the process of how formal and informal structures come into being. <i>Source: Ruth McCleod, as cited in Hamdi, 2010, p.121. [edited]</i>	66
FIGURE 20	A historical snapshot of South Africa. <i>Source: Huchzermeyer, 2011, p.8; Al-Khalil, 2013; https://www.gov.za/about-sa/history; https://www.nicd.ac.za/.</i>	68
FIGURE 21	Map of Pretoria. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	72
FIGURE 22	Satellite image of Pretoria. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	74
FIGURE 23	Map of Melusi. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	78
FIGURE 24	Satellite image of Melusi. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	80
FIGURE 25	Map of Mamelodi. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	86
FIGURE 26	Satellite image of Mamelodi. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	88
FIGURE 27	Map of Woodlane Village. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	94
FIGURE 28	Satellite image of Woodlane Village. <i>Source: © Mapbox, © OpenStreetMap. [edited]</i>	96

FIGURE 29	Participatory action research. <i>Source: Schubotz, 2019</i>	103
FIGURE 30	Recap of game and play sessions: chronological representation and non-linear processes. <i>Source: author, 2021.</i>	150
FIGURE 31	Extracting co-produced knowledge from play sessions, according to the three dimensions suggested in the framework. <i>Source: author, 2021.</i>	153
FIGURE 32	Dissecting the cube into dimensions of games and play. <i>Source: author, 2021.</i>	155
FIGURE 33	Negotiations about the future and scales of play. <i>Source: author, 2021.</i>	157
FIGURE 34	Urban systems of play in different scales and themes. <i>Source: author, 2021.</i>	159
FIGURE 35	Interconnection of games and play. <i>Source: Poplin, 2012, p.197.</i>	160
FIGURE 36	Co-creating ideas through iterations of play. <i>Source: author, 2021.</i>	165
FIGURE 37	Occupying space through play. <i>Source: author, 2021.</i>	171
FIGURE 38	The power of rules in the intersection of play and human interaction. <i>Source: author, 2021.</i>	177
FIGURE 39	Games and play to overcome a binary perspective on (in)formality. <i>Source: author, 2021.</i>	178
FIGURE 40	An architects' toolbox including serious games as a design method. <i>Source: author, 2021.</i>	179
FIGURE 41	Rolling dice. <i>Source: author, 2021.</i>	185

6.1.5

LIST OF PHOTOGRAPHS

SOURCE OF PHOTOS USED ON FIRST PAGE OF A CHAPTER (NO CAPTION): AUTHOR, 2021.

PHOTO 1	A casual afternoon in Melusi. <i>Source: author, 2021.</i>	71
PHOTO 2	Houses in Melusi. <i>Source: author, 2021.</i>	77
PHOTO 3	Fence between MYDO and the housing area in Melusi. <i>Source: author, 2021.</i>	82
PHOTO 4	"House of Uzma", arguably one of the best places to get food in Mamelodi. <i>Source: author, 2021.</i>	85
PHOTO 5	Large wall painting: "Speak up!! Speak out!!". <i>Source: author, 2021.</i>	90
PHOTO 6	Woodlane Village, next to the soccer field. <i>Source: author, 2021.</i>	93
PHOTO 7	A colorful in Woodlane Village. <i>Source: author, 2021.</i>	98
PHOTO 8	Jua saying "Hi" to Adam and Jonathan on a video call during a workshop activity. <i>Source: author, 2021.</i>	113
PHOTO 9	A small step towards building trust. <i>Source: author, 2021.</i>	114
PHOTO 10	"What do you think could be a good hight for the funnels?" <i>Source: Achi, 2021.</i>	116
PHOTO 11	Co-building the game "Water you thinking about?". <i>Source: author, 2021.</i>	117

PHOTO 12	Coloring water to prepare for the game session. <i>Source: author, 2021.</i>	118
PHOTO 13	Model building session. <i>Source: author, 2021.</i>	122
PHOTO 14	A dream house... with a fence. <i>Source: author, 2021.</i>	126
PHOTO 15	Playing ball games. <i>Source: author, 2021.</i>	127
PHOTO 16	A good afternoon at UP Mamelodi Campus. <i>Source: author, 2021.</i>	132
PHOTO 17	Two man playing a local board game. <i>Source: author, 2021.</i>	138
PHOTO 18	Good move. <i>Source: author, 2021.</i>	140
PHOTO 19	A broken toy train, made from plastic. <i>Source: author, 2021.</i>	144
PHOTO 20	Play as it emerged with children from Woodlane Village. <i>Source: author, 2021.</i>	145
PHOTO 21	Exploring the future of Melusi through playing with 3D models. <i>Source: author, 2021.</i>	161
PHOTO 22	Play, as it occurs in human interaction of daily life, such as buying something at the counter (left), or playing a board game (right). <i>Source: author, 2021.</i>	162
PHOTO 23	Playing the game "Paper Plate Party" in Melusi. <i>Source: author, 2021.</i>	167
PHOTO 24	Playing the game "Water You Thinking About?" in Melusi. <i>Source: author, 2021.</i>	168
PHOTO 25	Playing ball games at UP Mamelodi Campus. <i>Source: author, 2021.</i>	172
PHOTO 26	Co-creating a temporal playground under a big tree in Woodlane Village. <i>Source: author, 2021.</i>	173
PHOTO 27	Two men playing a local board game in Woodlane Village. [Cover image]. <i>Source: author, 2021.</i>	182

6.2

APPENDICES

6.2.1

TOOLBOX WORKSHOP WEEK II

The following pages show the document *A collection of collaborative methods and serious games for remote collaboration in community development projects, draft v.1.0*". It was used in *Reality Studio* workshop "Toolbox week II" as a foundation for the students to learn and adapt collaborative design methods.

A COLLECTION OF COLLABORATIVE METHODS AND SERIOUS GAMES

FOR REMOTE COLLABORATION
IN COMMUNITY DEVELOPMENT PROJECTS

DRAFT 1.0

Mumtaheena Rifat, Robin Eskilsson, Markus Zorn
Reality Studio, CTH, 2021

COLLABORATIVE METHODS

READING INSTRUCTIONS:



Observation



Participatory

Project phases



Planning & Relationships



Design



Monitoring & Evaluation (M&E)

Who

Actors who might be involved in the activity. You may choose to create more roles depending on your project. Where a role is given in brackets it may or may not be needed for the activity.

- + **Project Team:** The people who plan, organise and monitor the project to keep it on track.
- + **Partner Organisation/s:** Stakeholders who have a role in delivering the project
- + **Community Members:** Representatives from the community, who make a commitment to be part of the design process, for example local residents.
- + **Project Facilitator/s:** The people who facilitate the design process. They need to speak the language of the community members, have an understanding of design process and have access to the local community and site.

GETTING TO KNOW EACH OTHER



AIM

- Build positive relationship and trust
- Build cultural awareness
- Build the confidence of participants to value and contribute their knowledge

WHO

- Project team
- Partner organizations
- Community members
- Project facilitators

WHAT WE NEED

- Materials to run specific activities
- Location suitable for the activities, if necessary
-

BE CAREFUL

- Be sensitive to the needs and desires of participants and avoid placing unnecessary burdens on them.

LIMITATION

Method for partnership development, to build relationships between different actors involved in the project.

HOW

Step 1: Plan activities you could do to start building a positive relationship or building trust. Think about activities that would be appropriate to the group with regard to

- amount of time available
- if there are assumptions that needs to be challenged

Step 2: Prepare the materials you need to run the activities.

Step 3: Run the activity, make sure everyone is involved.

TIPS

- It is important that the participants view the actors involved as equals or colleagues that experts or donors, so focusing on activities that bring out or discuss common attributes or interests could be a good idea.
- It is a good idea to have an informal setting. Cooking and eating together or having a picnic are some well known activities proven to be useful in this case.
- Playing games or team building exercises with the group is also a good idea.



TRANSECT WALK



AIM

- Get an understanding of current living conditions of residents.
- Gain insight into physical conditions and activity systems

WHO

- Project team
- Community members

WHAT WE NEED

- Writing pens and pencils
- Note and drawing paper of varying size e.g. big enough for maps small enough for sketches
- Camera

BE CAREFUL

It is important to engage with as great a representative sample as possible. Homes are an incredibly personal environment, it is important to treat the customs of those whom we engage with respect and sensitivity.

LIMITATION

Once a basic understanding of the neighbourhood has been achieved it is important to start to visit various households to gain a broad understanding of the household structure and listen to residents' stories.

HOW

STAGE 1 - Individual walk

Step 1: Walk around the neighbourhood, mapping an area of interest.

Step 2: As part of mapping, engage with the residents as much as possible to understand points of interest, activity systems and physical conditions.

Step 3: Visit households, noting conversations and develop the 'picture' of the neighbourhood at a personal level.

Step 4: Record notes where necessary but remain engaged in conversation.

Step 5: Listen to stories and the memories of the neighbourhood, as no record of such information may be found elsewhere.

STAGE 2 - Participatory walk

Redo step 1 through 5 again with representatives of the community member.

TIPS

- It is important that you do this as a participatory activity and individually. When you do it alone you perceive certain things you might not while in company of local residents. When you do it participatory you again get another view of the area, through the locals perspectives.
- In their presentation, transects can be collaged or indeed performed as animation using puppets and narrative.

SEMI STRUCTURED INTERVIEWS



AIM

- To understand the context in more detail.
- To obtain in-depth, qualitative information from those who experience the issues.

WHO

- Project team
- Community members
- (Project facilitators)

WHAT WE NEED

- Questions readily drawn up
- Note paper
- Writing pens and pencils
- Highlighters
- Recording device
- Location to carry out the interview
- Comfortable seating arrangements

BE CAREFUL

- Be aware of sensitive questioning
- Be readily active to listen and record responses.
- Recording or taking notes should come with participant permission.
- Helping the interviewee to give answers, asking vague questions, engaging only with the articulate or those who speak your language are all to be avoided.

LIMITATION

Recording or notes could prove invaluable as questions tend to bring up new paths of discussion and become more complex than what has been prepared for.

Informal conversations or discussions with topical questions used to gather information. The questions are used to guide conversation and are based on a predetermined set of topics, which can be added to and modified as needed.

HOW

Step 1: Prepare a list of questions to use as a general guide and set the context (time, place, seating arrangement and language)

Step 2: Find participants from local community for the interview and sit with them either as groups or as individuals in a quiet location

Step 2: Introduce yourself and the participant on a recording.

Step 3: Use predesigned questions to suggest as topics of conversation, but allow for meandering for a fuller understanding. Record notes where necessary.

TIPS

- Remain engaged in conversation, even while taking notes.
- For larger groups, engage with and encourage all participants as equally as possible.
- The audience should be as representative of the population as possible.
- Sensitive questions could be carefully led up to and questions that can be answered with yes or no avoided.
- If a private space is needed, this must be organised in advance.
- Arrange refreshments if the interview is expected to take longer than 15 minutes

DRAWING WITH CHILDREN



AIM

- To associate places with feelings and see how children see their community.

WHO

- Project team
- Community members
- Children 5 - 12 years old

WHAT WE NEED

- Plain paper
- Colouring pencils
- Felt tip pens
- Note paper
- Table or flat area for drawing
- Sweets for children

BE CAREFUL

LIMITATION

An activity where children make drawings to answer specific questions related to their neighbourhood.

HOW

Step 1: Gather the groups of children (no more than 10 at a time), the facilitators should introduce themselves and make name tags for each participant with their age. What they should draw could be mentioned here.

Step 2: Distribute paper and colour pencils, allowing them enough time to draw. Their name and age should be written on the back.

Step 3: Arrange the drawings on a wall. One by one, each child should present their drawing.

Step 4: Analyse the drawings, noting those areas mentioned most, along with specific details.

TIPS

- Let the children draw freely and do not let them be influenced by discussion with facilitators.
- Drawing an example can help children understand and become confident with the task. While children are drawing try to observe and ask them questions to ensure they understood the task, to make them feel comfortable and to get information individually.
- In cases they are too shy to explain it in front of the group. Ideally the facilitator should be charismatic and highly familiar with the context the children live in.

IMAGES FROM MY NEIGHBOURHOOD



Mapping exercise where local residents take pictures or draw their most and least favourite spaces in the community, discussing the characteristics of the space. The intention is to map the most relevant community spaces for participants.

AIM

- To map relevant community spaces for a particular group in order to identify positive, negative or gender specific issues.
- To identify identify potential stakeholder differences related to gender, age and culture.

WHO?

- Project team
- Community members
 - Preferably teenagers 12-19 year olds

WHAT WE NEED

- Camera or mobile phone
- Sketchpad or paper, if participants are drawing
- Printer and paper
- Coloured pencils
- Maps of varying scales
- Labels / Post-it notes

BE CAREFUL

LIMITATIONS

HOW?

STAGE 1: Talking through Images

Step 1: Organise the group splitting genders or age groups separately. Each participant will be asked to choose one place that they like the most and one they do not like.

Step 2: Once places are discussed and selected, each participant should go to the selected locations and take the pictures. They can also draw the places.

Stage 2. Qualities of the Open Space

Step 3: Print the pictures and arrange the pictures on the wall/floor or board.

Step 4: Make a list of positive and negatives on all pictures. Once you have a list, make sure there is the same number of positive and negative characteristics.

Step 5: Ask participants to choose the photo that best represents each word, one by one. For example, ask them to choose which picture represents the most clean place. Remove the choice (post-its) each time before a new participant starts to avoid being influenced by the previous choices.

Step 5: Use a map of the neighborhood and identify graphically the places the participants photographed. Now go through your notes of each picture and mark on the map each time a word was used in a place. To assess the quality of the space, start with allocating symbols for positive and negative characteristics, for example blue dots for positive and red for negative.

TIPS

MAPPING WITH COMMUNITY



AIM

- To understand the issues residents have with existing infrastructure in their community.
- To understand the relationships the community residents have with one another and the broader urban context.
- To understand the relationships the community residents have with one another and the broader urban context.

WHO

- Project team
- Partner organizations
- Community members
- Project facilitators

WHAT WE NEED

- Note paper
- Coloured pens and pencils
- 3D model/2d Maps of varying scales with detail to contours, buildings and access or neighbourhood and its wider surroundings.
- Cardboard, glue, tape and Scissors
- Flags/ Labels/ Post-it notes
- A location suitable for discussion if necessary

BE CAREFUL

LIMITATION

Mapping exercise to initiates discussion with using 2D /3D maps/models and visual representations about issues concerning existing physical infrastructure, community structures, neighbourhood boundaries, social networks and connections to the wider region.

HOW?

Step 1: Identify topics of conversation and assign colours or symbols to each (to be readable on the model/map).

Step 2: In groups observe and identify the issues associated with each topic and label respectively with flags, post-it notes etc on the model/map.

Step 3: Have open discussions about the topics. Refer to the map throughout the discussion.

Step 4: Direct conversation towards resolving the issues with relevant notes.

Step 5: If needed, analyse the information from the group discussions and prepare basic information boards with various findings for further discussion..

TIPS

- Mapping the surrounding could bring out the main issues of the neighbourhood and how they could to be solved.
- While mapping community structure visiting the relevant sites and engaging in conversation with users of a particular system over advantages and disadvantages of the management and relationships between sites would be more useful.
- Cognitive or social maps, for example, mapping events in people's past and present experiences and can reveal social and political relationships that will need to be considered when preparing proposals.

HARVEST MAPPING



AIM

To identify the location of available resources. Both tangible and intangible.

To identify what is considered a resource by locals and what is currently not considered a resource

WHO

- Project team
- Community members
 - Local manufacturers
 - Organizations with waste streams
 - Local construction material stores
 - Other local residents

WHAT WE NEED

- Map of the local area
- Information gathered about resources
- Camera
- Notebook

BE CAREFUL

This tool is essential for a building project, but is difficult to do in an urban context which has never been visited by facilitators/ designers before. If a building project is being planned then harvest mapping needs to be included into the programme of design development.

LIMITATION

By mapping and researching the area surrounding a proposed building site or development, a harvest map can identify potential material resources, skills and knowledge that can be used to inform how a building project is designed and constructed. It has the potential to be a catalyst upon which future building projects or social enterprises emerge. This is a key tool for identifying and utilising local resources to achieve strategic sustainable construction in any context.

HOW?

Step 1: Locate area of interest and devise research boundaries

Step 2: Carry out research via: internet, telephone enquiries, documentation walks (latter stage), send out surveys to locals to identify local “talents” (are there any teachers, construction workers etc.).

Step 3: Hold meeting to collate information

Step 4: Visit suppliers and skilled craftspeople to establish materials and local skills and knowledge (essential information for materials: material type, size, monthly quantity, source, location, availability, price)

Step 5: Collate information into a detailed resource database with identification map

TIPS

MAPPING STRENGTHS & WEAKNESSES



AIM

To establish strengths and weaknesses of the community.

WHO

- Project team
- Community members

WHAT WE NEED

- Key cards
- Activity board
- Stickers
- Pins
- Glue
- Drawing markers
- Notebook
- Camera

Be careful

Limitations

Used in focus groups differentiated by age and gender, in case of having no participants from some age group or gender could impact the outcomes

Mapping exercise to visually differentiate between strengths and weaknesses of a community. This tool is designed to be useful in focus groups differentiated by age and gender, specifically looking at community scale, but this can also extend to the city scale.

HOW

Step 1: Establish key elements of the community.

Step 2: Create key cards with visuals of the key elements of the community.

Step 3: Create activity board made of a +ve and -ve column.

Step 4: Split participants into focus groups.

Step 5: Set up activity boards - place key cards around the edge of the activity board.

Step 6: Get participants to group cards, locate each key element into a +ve or -ve column through negotiated discussions with their peers, discussing their reasons as they go.

Step 7: Ask participants to prioritise using stickers or a marker – one sticker/mark per item.

Step 8: Ask participants for any final comments.

TIPS

- The key elements could be the various aspects of the community found during the 'Getting to Know' activities.
- Throughout the exercise it is important to keep the discussion free flowing and ensure that information about how the various items discussed affect individuals and why they think they are a higher priority than others.
- Record and take notes during the activity

STAKEHOLDER ANALYSIS



AIM

- To understand who (both organizations and people) has, or could have, an interest in the project
- To decide how to involve them.

WHO

- Project team
- Partner organizations
- Community members

WHAT WE NEED

- Note paper
- Writing pens and pencils
- Highlighters
- Recording device
- Location to carry out the exercise

BE CAREFUL

It's important to have the necessary permissions for your project, but you may not need to involve the authorities if a partner already has the appropriate permissions to do the work you plan to do. In some places, involving officials may result in delays, fees or bribes.

LIMITATIONS

Understanding what stakeholders are involved in the project will guide the decision making process and shed light on what stakeholders need empowerment in the process and who needs to be closely monitored.

HOW?

Step 1, List the organizations or people who have (or could have) an interest in the project. Included, but not limited to: Partner organizations, relevant authorities (such as fishery department, local government), aligned organizations (for example other organizations working in the same geographical area or researching a similar topic), participating families/individuals (consider breaking down into groups based on gender/age), other people in the host village or neighbouring villages, financial donors, potential funding bodies.

Step 2, What are the needs and expectations of each stakeholder? What will success "look like" for them?

Step 3, What assets do they have which could help the project to be successful? Knowledge, networks, time, experience, funding, technical skills.

Step 4, Are there any risks associated with this stakeholder? If so, transfer these to your Risk Management Plan.

TIPS

COMMUNICATION PLAN



Identifying the level of involvement for the stakeholders and creating a communication plan that allows everyone involved to follow through.

AIM

- Understand the information you need to gather and communicate to others
- Decide on the best way to communicate with stakeholders

WHO

- Project team
- Partner organizations

WHAT WE NEED

- Note paper
- Writing pens and pencils
- Highlighters

BE CAREFUL

LIMITATIONS

HOW

Step 1: Fill out a worksheet filling in following criterias for the stakeholders you need to communicate with.

Person / stakeholder	What do they need/want to know?	What level of involvement do they want?	What type of communication is feasible and best?	When / How often will this occur?	Who is responsible?
(Stakeholder 1)					
(Stakeholder 1)					

Step 2: Decide the level of involvement, you may like to refer to the IAP2 (International Association for Public Participation) Spectrum:

	Inform	Consult	Involve	Collaborate	Empower
Public participation goal	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions	To obtain public feedback on analysis, alternatives and/or decisions	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered	To partner with the public in each aspect of the decision including the development of alternatives and identification of the preferred solution	To place final decision-making in the hands of the public
Promise to the public	We will keep you informed	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible	We will implement what you decide

TIPS

- Keep in mind what level of impact is appropriate to that stakeholder, and conserve your resources for where it is most beneficial.
- Consider any risks associated with that stakeholder.



EXPECTATIONS



AIM

- Understand people's hopes for the project
- Identify and manage unrealistic expectations

WHO

- Project team
- Partner organizations
- Community members
- Project facilitators

WHAT WE NEED

- Large paper
- Crayons

BE CAREFUL

LIMITATIONS

Setting the expectations surrounding the projects is crucial for the after effects of the project. If participants hopes are too high and unmanaged, they will feel left out or unheard.

HOW?

Step 1: Ask participants to discuss or write down what they expect the project will be like and what they hope to gain from it.

Step 2: Discuss whether all the expectations are reasonable and can be achieved.

- + It may be possible to change things to meet expectations.
- + It may be necessary to accept that some expectations cannot be met. Where this is the case, discuss the reasons for this so all participants understand;
- + There may be conflicting expectations, and it is important to agree on the priorities.

TIPS

- Encourage people to be open and honest.
- Some people may not even be aware of the expectations they have. Ask probing questions to open up discussion.

SERIOUS GAMES & ROLE PLAY

What are Serious Games?

Serious games can play (*pun intended*) a key role in collaborative processes and citizen engagement.

Most commonly known games are designed solely for the purpose of entertainment. *Serious games*, however, offer additional functionalities, such as pedagogical aspects (Michael & Chen, 2006, p. 4).

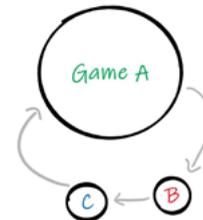
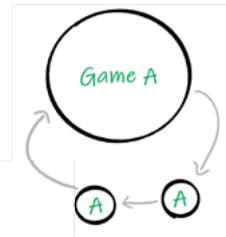
Games can be used as a tool for positive change in the development projects, because *“serious games offer us a rich field for a riskfree, active exploration of serious intellectual and social problems”* (Peattie, 1968, as cited in Hamdi, 2004, p. 136). Hamdi (2004) adds, “[t]hey enable us to explore relationships between designed structures (rules) and emergent ones” (p. 136).

Another important concept in the context of games, is the term *gamification*. Although there is no clear line, the following can be said to distinguish between a *game* and *gamification*: In contrast to a *game*, *gamification* describes the implementation of game-elements outside a specific game context (Beattie, 2020, p.81).

“Games hold the promise to turn collective reflection (and civic learning) into fun—into an activity that people engage in for the sake of civic engagement itself, instead of being driven by the sole objective of safeguarding individual privileges.”
(Devisch et al., 2016, p.84)

How to play with games

- **Play iterations!** (using the same game, or another one, see figures)
- **Change the rules!** (tweak the system to make it fit your purpose)
- **Switch platform!** (maybe a different platform works better for you)
- **Change the scale!** (re-scale the number of players, the playing time,...)
- **Create your own game!** (be creative and develop your own ideas)



Limitations

Be aware, that although many games can be very useful in a context such as distance-based development processes, not all games are specifically designed for this purpose. The context in which you are playing, and how you “set the stage” will strongly influence how valuable the outcome of the session will be.



30-90 MIN



AGE 12 +



4-15 PLAYERS

UNFOLDING STORIES

A collaborative story-writing game. It's based on a non-digital game, where players sit around a table, contribute one line to a story, fold the paper, and pass it on. In the end, everybody gets a wonderful story, written by everybody.

HOW?

Step 1: Set the stage. Make sure all players involved know about what exactly it is, you want to explore through playing the game.

Step 2: Come up with a good headline which sparks interest and inspires players to write. Write the first line of your story, choose the game duration, and hit **GO**.

Step 3: While writing, make sure all players are on board. You can stay in touch through any communication platform, to help each other out or share thoughts during the game.

Step 4: Time's up. You will see the "main story", and one personal story for each author (whose names and colors are assigned automatically). Read your stories (out loud, if you want). Discuss why some stories took different turns, and share your favorite lines. Talk about the overall narrative, and how it might help you in mutual understanding and dialogue.

For information about the game UI, visit unfoldingstories.app/Rules

AIM

Explore existing narratives of places and communities, generate new ideas, or gather thoughts around a certain topic.

PLATFORM & DEVICE

Simple web-app:
unfoldingstories.app

Can be played on any device (smartphone, tablet, PC), using common internet browsers.

*Don't ask "What's the problem?"
Ask "What's the story?"
That way you'll find out what the
problem really is.*

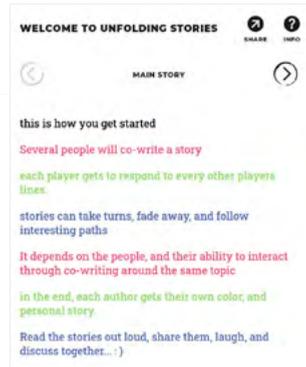
- Neustadt & May, 1988, p.274

TIPS

- **Play iterations!** (using the same game, or another one)
- **Change the rules!** (tweak the system to make it fit your purpose)
- **Switch platform!** (maybe a different platform works better for you)
- **Change the scale!** (re-scale the number of players, for example)
- **Create your own game!** (be creative and develop your own ideas)

LIMITATIONS

Digital and verbal illiteracy can be major obstacles in playing this game.



15



20-30 MIN



AGE 8 +



4-12 PLAYERS

SKRIBBLE

A well-known game, usually played just for entertainment. Put in the right context, it can transform into a game which shows how people can think differently about certain words and terms, which can help to uncover misunderstanding and misinterpretation in a project dialogue.

HOW?

Step 1: Set the stage. Make sure all players involved know about what exactly it is, you want to explore through playing the game.

Step 2: Go to skribbl.io > Customize your avatar > **Create Private Room**

Step 3: Choose the settings for the game. In the **Custom Words** section, write a list of the terms and words you want to explore. Check the box for *Use custom words exclusively*.

NOTE: What words, concepts, ideas,... do you want to investigate? For example, you can use ambiguous words to explore their different meanings.

Step 4: During the game, pay careful attention to what people seem to think about when they are trying to draw certain words. Try to reflect

Step 5: Discuss how one word can take on many different meanings, depending on the context of history, culture and society.

For further information about the game, click **How to Play** (skribbl.io)

AIM

Find out about the ambiguity of language and words (see Hamdi, 2004, pp.xv-xvi).

PLATFORM

Simple web-app:
skribbl.io

This application supports many languages, which can help to involve local citizens and other actors.

Recommended to play on PC or tablet. For the full experience, use a pen or drawing pad.

TIPS

- **Play iterations!** (using the same game, or another one)
- **Change the rules!** (tweak the system to make it fit your purpose)
- **Switch platform!** (maybe a different platform works better for you)
- **Change the scale!** (re-scale the number of players, for example)
- **Create your own game!** (be creative and develop your own ideas)



Lobby

Rounds: 5

Draw time in seconds: 100

Language: English

Custom Words: sustainability, community, collaboration, participation,...

Use custom words exclusively.

Start Game

LIMITATIONS

Digital and verbal illiteracy can be major obstacles in playing this game.



30-90 MIN



AGE 10 +



4 PLAYERS

SKETCHY PLANS

Sketchy plans will make you draw the most sketchy plans you have ever seen. Throughout the game though, you will see that adjusting your ideas to those of your co-players.

HOW?

AIM

This game can be used for co-mapping existing places, or to generate new ideas, in a responsive way to other players' ideas.

PLATFORM

This game can be played on the platform of your choice. It's basically about sharing and rearranging photos of drawings. You can also play this in digital-only version, if all players feel comfortable drawing with a mouse, or they have access to a pen or drawing pad.

PREPARATIONS

Step 1: Set the stage. Make sure all players involved know about what exactly it is, you want to explore through playing the game.

Step 2: Decide which topic you want to "draw around". It can be anything from a room to a city, or something very different. Divide the "canvas" (which will become the complete drawing) into 4 quarters. Each quarter gets assigned certain functions or keywords, to define what should be drawn in it. (Figure 1)

Step 3: Make sure each player has a sheet of paper, which makes up 1 quarter of the canvas.

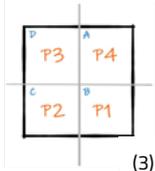
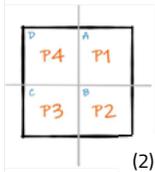
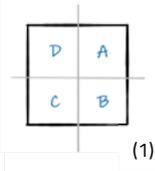
PLAYING IN ROUNDS

Step 1: To start the first round, randomly assign each player to one of the 4 sections. (Figure 2)

Step 2: Set a timer: each player has 5 min to draw their vision of the quarter they are currently drawing on. When time's up, take a picture of your drawing. Make sure it's a nice top-view, so it will match with your co-players. Upload your sketch to you platform (e.g. Miro), and assemble all 4 pictures accordingly, to create a complete Canvas.

Step 3: Quickly discuss what you see.

Step 4: Rotate the players clockwise, but keep the assigned functions of the quarters the same. This way, each player gets the chance to draw each section. (Figure 3) Start the next round, and repeat at least 4 times.



TIPS

Try to remember what you just discovered in your discussion. You can adapt your ideas, to match the collaborative vision of the house!

This is what a potential outcome of one round could look like. In this case, the topic was co-drawing a floor plan of a small house.



LIMITATIONS

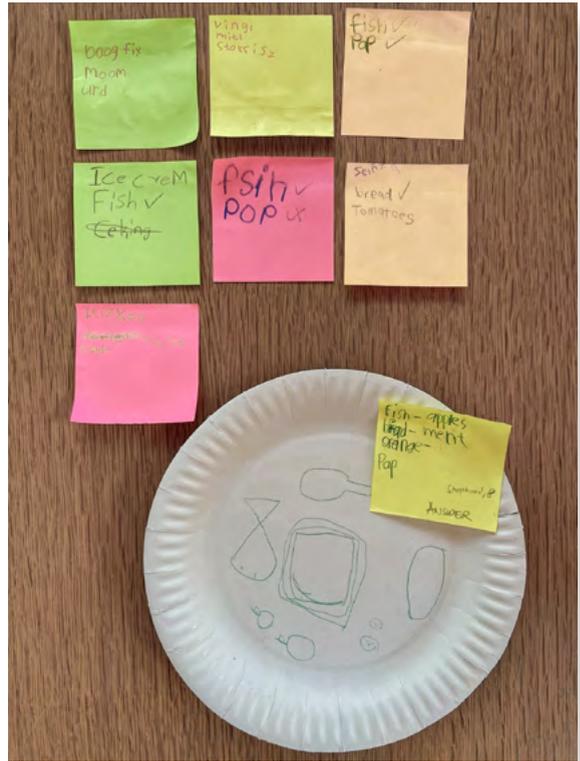
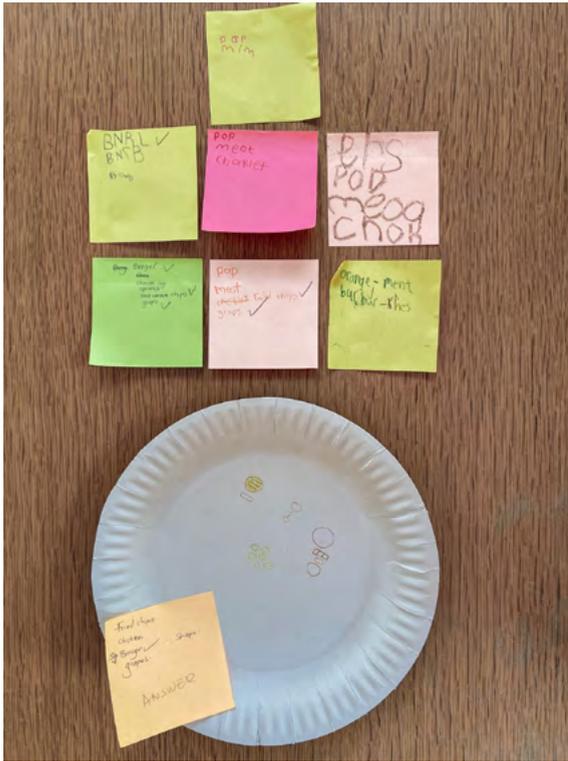
Digital and verbal illiteracy can be major obstacles in playing this game.

6.2.2

GAMES FROM THE PAR PROCESS

PAPER PLATE PARTY

The pictures on the following pages show the results of the game, played in the first workshop in Melusi. The selection is incomplete and serves as an example.



KAHOOT! IN DHAKA

The following two pages show the questions used in a workshop with children from Dhaka, run by the *Reality Studio* project team working in Dhaka, and locally facilitated by Mahmuda Alam (POCAA).



বাংলাদেশ ও সুইডেন সম্পর্কে আপনি কী জানেন? What do you know about Bangladesh and Sweden?

কর্মশালা 3 - আপনি বাংলাদেশ এবং সুইডেন সম্পর্কে কী জানেন? Workshop 3 - What do you know about Bangladesh and Sweden?

1 favorite

4 plays

7 players

A public kahoot

Questions (9)

1 - Quiz

সুইডিশ পতাকা দেখতে কেমন? What does the Swedish flag look like?

30 sec

2 - Quiz

অবশেষে কোন বছর বাংলাদেশ স্বাধীন হয়ে আজকের নামটি অর্জন করেছে? What year did Bangladesh finally become independent?

30 sec

3 - Quiz

বাংলাদেশের জাতীয় ফুল কী? What is the national flower of Bangladesh?

30 sec

4 - Quiz

এটি সুইডেনের শীর্ষস্থানীয় ফুটবল খেলোয়াড়। তার নাম কি? This is Sweden's foremost football player. What's his name?

20 sec

5 - Quiz

এই বিল্ডিংয়ের নাম কী? What is the name of this building?

30 sec

6 - Quiz

আপনি এটি সুইডেনের উত্তরের অংশে দেখতে পাচ্ছেন। এটাকে কি বলে? **What's it called?**

30 sec

7 - Quiz

সুইডেনের তুলনায় বাংলাদেশ কতটা ছোট? (আকারের ক্ষেত্রের কারণে)। **How much smaller is Bangladesh than Sweden?**

30 sec

8 - Quiz

এই রঙিন ভবনটি সুইডেনের সবচেয়ে বিখ্যাত স্থপতি দ্বারা ডিজাইন করা হয়েছিল, আপনি কি তার নামটি অনুমান করতে পারেন? **Architect?**

30 sec

9 - Quiz

সুইডেনের কত অংশ বনাঞ্চল দ্বারা আবৃত? **How much of Sweden's area is covered by forest?**

30 sec

WATER YOU THINKING ABOUT?

A description of the game was published as a poster on the "Public Play Space" website, as shown on the following page.

Online content: <https://www.publicplayspace.eu/symposium-posters/>

WATER YOU THINKING ABOUT?

dimensions of a water-infrastructure game as a placemaking tool for intercultural co-design processes

Project dates: Feb, 2021 - May, 2021

Location: Mamelusi (Pretoria, South Africa), informal settlement

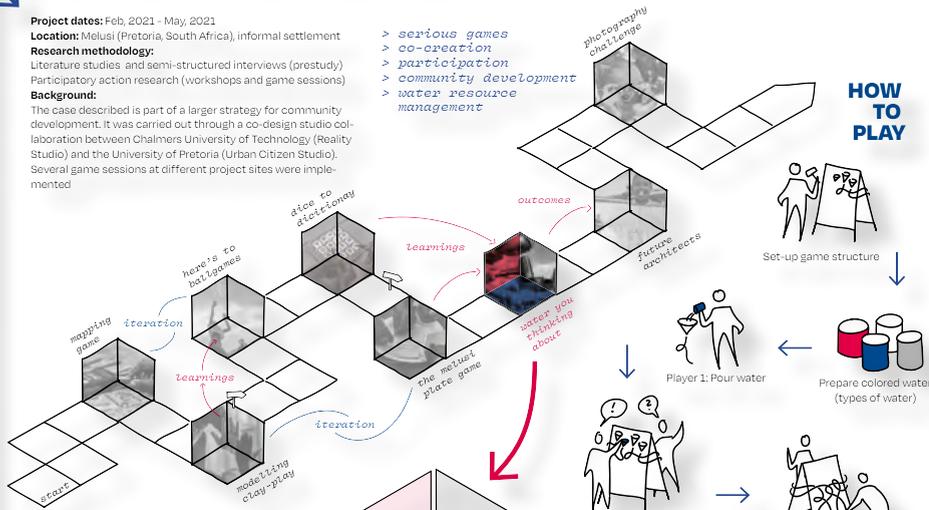
Research methodology:

Literature studies and semi-structured interviews (prestudy)
Participatory action research (workshops and game sessions)

Background:

The case described is part of a larger strategy for community development. It was carried out through a co-design studio collaboration between Chalmers University of Technology (Reality Studio) and the University of Pretoria (Urban Citizen Studio). Several game sessions at different project sites were implemented

- > serious games
- > co-creation
- > participation
- > community development
- > water resource management



socially related implications

PREPARING THE GAME

Co-building the game structure and setting up the game builds trust and increases inclusivity.



AIM OF THE GAME

Collect data about how the community uses water and what role it plays in everyday life.



PREPARING THE GAME

A simplified version of a water management infrastructure is built, opening up the opportunity for conversations about local water infrastructures.

PLAYING THE GAME

Reflecting on real-life activities related to water usage and creating an iteration with the game.



playing the game itself

AIM OF THE GAME

Get colored water, representing different kinds of water (drinking water, rain water, etc.), from one side of the structure, into according buckets on the other side.

PLAYING THE GAME

Competitive and collaborative elements will keep excitement and team-spirit alive respectively.



PREPARING THE GAME

Setting up the game (little wall structure, pipes, funnels, colored water) to get the game ready to play.

GAME OUTCOMES

Nicely separated water in the different buckets will show consistency in water usage, brown water in all buckets indicated inconsistency.



GAME OUTCOMES

Reflect on outcomes (pictures, quantitative data, etc.) to inform the project development.



implications for placemaking facilitators

MAIN TAKEAWAYS

The immediate engagement of participants indicates greater commitment towards water management issues. The game provides an innovative and creative alternative to conventional approaches to community development. As a fun and social engagement it encourages active participation. Furthermore, an iteration of playing this game can evoke valuable reflection on water usage.



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UNFOLDING STORIES

The following screenshots show how *Unfolding Stories* was used in two game sessions in Mamelodi. The results can be distinguished by their headlines, and are presented in chronological order:

- Internal project group game: "WHERE DO CHILDREN BELONG?" (<https://unfoldingstories.app/Result/reM64yjZ>)
- Played with adolescence from Mamelodi: "ELKEBITSO - A DICTIONARY'S BIOGRAPHY" (<https://unfoldingstories.app/Result/ZBX9dFc4>)



WHERE DO CHILDREN BELONG?



MAIN STORY



Children in Mamelodi will better find their identity and belonging if...

they find a way of mediating between their understandings through the development of a shared spatial language.

This helps them gain agency of the spaces they inhabit by gaining deeper understanding.

Through this approach appropriation also occurs. Through finding all different levels of appropriation all understandings and stories are uncovered which in the end develops a shared spatial language

This space is

within the urban interior and it is a system that contains permanent, temporal and mobile structures that store and share knowledge.

This becomes a place where knowledge can be exchanged in new ways and creates value for the people being in it.

Eventually the values and ideas created in this space will extend into the greater Mamelodi context.

This process will start from something small that the user needs and it will then grow into a system and collection of different objects and spaces that will fulfill the user's needs of belonging.

Resulting in a stronger Mamelodi community with independent young-adults!

That feel belonging and create a good basis for them to learn from and understand the world around them.



ELKEBITSO - A DICTIONARY'S BIOGRAPHY



MAIN STORY



Hi, I am Elkebitso a S'pitori Dictionary and I come from the Mamelodi Campus. I live through the words of others. Lets explore how...

I got to know all those fascinating peeople. One day, for example I met this really strange guy, who...

was sitting on a blue chair. The words he wrote on my pages were really fascinating. I remember the word...

Kasi and mamazala

Those were my favorite words. If I could only remeber what they mean...

Mamazala which means mom

The people who hold the community and also gossip with each other and about other people

They love to do this at a particular place which is

The youth loves to party at skyf

They even smoke Hubble bubble

Now the youth have turned it a partying place than sport

They mostly play soccer

at Rethabile Sports ground.



PLAYING PARTICIPATORY PHOTOGRAPHY

The following page shows a selected number of photographs, from Playing Participatory Photography, carried out in Mamelodi.

All pictures shown, were shot with a disposable analogue camera, and are unedited.

The photographs on the left were taken by Simphiwe Shika, the ones on the right by Mulngiseleli Ngejane and Mungisi Ngejane.

All participants gave permission to use their photographs as part of this thesis at hand.



6.2.3

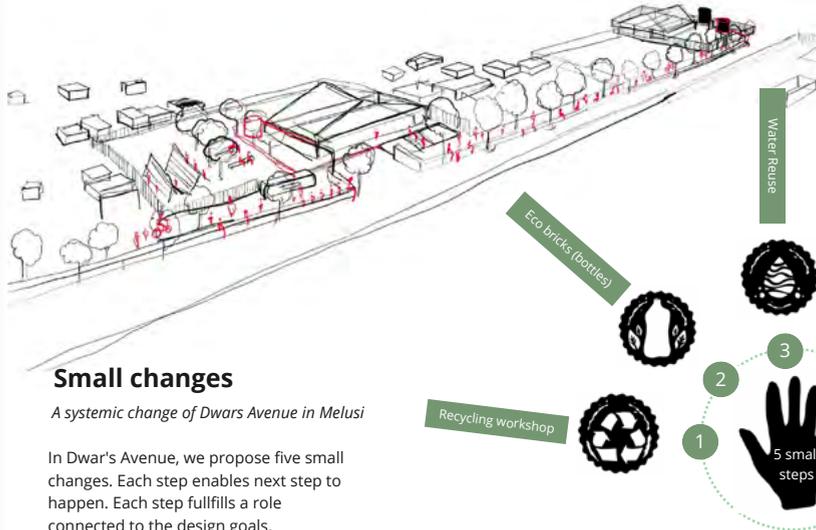
PROJECT OUTCOMES: MELUSI

The following pages show an excerpt of the final project report from the Melusi project team as well as a renderings from a continuation of the project by Jua Greeff.

The games co-created as part of the thesis at hand played a key role in developing the shown projects.



SMALL CHANGES



Small changes

A systemic change of Dwars Avenue in Melusi

In Dwar's Avenue, we propose five small changes. Each step enables next step to happen. Each step fullfills a role connected to the design goals.

Step by step

In a community facing many challenges, it can be hard to find "the grand solution".

Instead, we present a set of solutions or changes, that each can give an impact - but also works as a system - where each step prepares ground for the next.

Why small changes?

Small changes are achievable

Small changes can be done also with small economic or social resources. They are particularly efficient when applied in areas lacking earlier architecture or planning.

The guru of small changes is the British architect and theorist Nabeel Hamdi. In the speech bubbles we display some quotes from him.

"Intelligent practice builds on the collective wisdom of people and organizations on the ground — those who think locally and act locally — which is then rationalized in ways that make a difference globally."
-Nabeel Hamdi

"In the language of 'emergence', it's better to build a densely interconnected system with simple elements and let the more sophisticated behaviour trickle up." In this respect, good development practice facilitates emergence, it builds on what we've got and with it goes to scale."
- Nabeel Hamdi

"Practice, then, is about making the ordinary special and the special more widely accessible — expanding the boundaries of understanding and possibility with vision and common sense. It is about building densely interconnected networks, crafting linkages between unlikely partners and organizations, and making plans without the usual preponderance of planning. It is about getting it right for now and at the same time being tactical and strategic about later."
-Nabeel Hamdi

"Transition Initiatives are based on four key assumptions:
1. That life with dramatically lower energy consumption is inevitable, and that it's better to plan for it than to be taken by surprise.
2. That our settlements and communities presently lack the resilience to enable them to weather the severe energy shocks that will accompany peak oil."
(Hopkins, 2008)

Take aways

(Hamdi, 2004)

(Hopkins, 2008)



**"3. That we have to act collectively, and we have to act now.
4. That by unleashing the collective genius of those around us to creatively and proactively design our energy descent, we can build ways of living that are more connected, more enriching and that recognize the biological limits of our planet."**
(Hopkins, 2008)



SMALL CHANGE 02

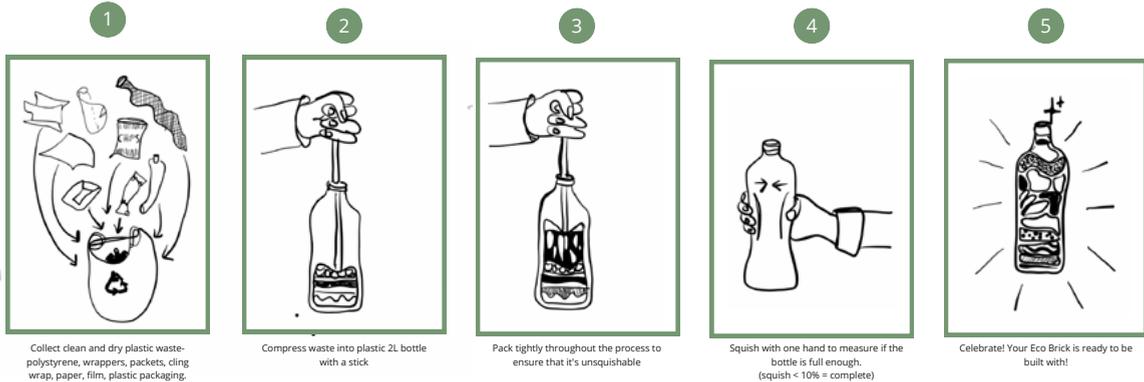
Eco bricks

Upcycling in Melusi

Eco bricks is a free or cheap way of providing building material, as well as a way of upcycling plastic waste.

Why eco bricks?

- Cheap and available changemaker.
- Captures plastic waste, and capsules it in mud or concrete.
- Can be used for construction of a range of structures
- The making process of the ecobricks in itself creates community.
- Lay the foundation to the next step in the transition process.



Take aways:
capture of plastic waste!



Take aways

Take aways:
recycling and creation of community



Water Reuse



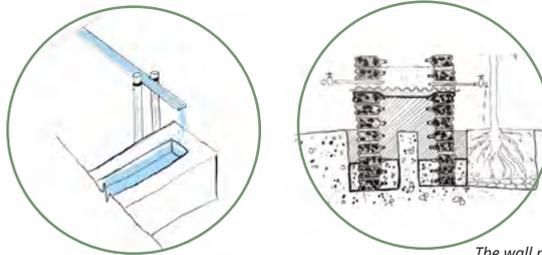
SMALL CHANGE 03

Water reuse

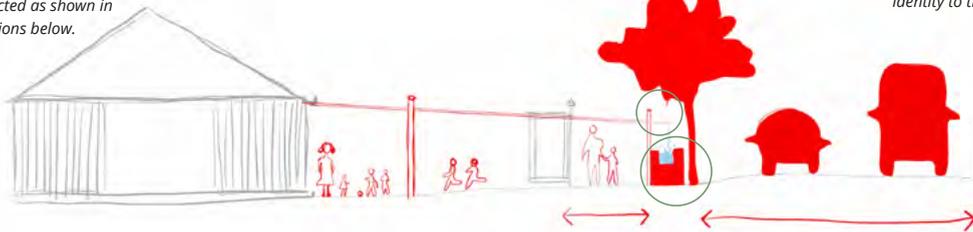
Reuse of rain- and greywater

For the roofs of the public institutions along Dwar's, we propose a simple rain water collection system. The roofs can collect large amounts of water, if used in the right way. Through air pipes, the water is led to the water collecting "wall" along the street.

Upon the wall, there is room for a channel that leads water to trees planted in an alley along the street. The wall and channel are constructed as shown in the sections below.



The wall protects pedestrians and playing kids from the cars. It also serves as a "defining" structure, giving a certain identity to the street.



Step 1
A simple shovel is used for digging



Step 2
Foundation built of eco bricks



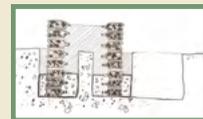
Step 3
Cement



Step 4
Construction of wall, using eco bricks



Step 5
Clay is added



Step 5
A plastic cover is applied



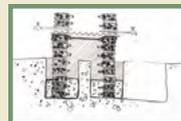
Step 6
Metal plate is put on top



Step 7
Taps are added on each side of the wall



Step 8
The channel on top is completed



Step 9
Trees are added besides the wall



Tree wells

Tree Wells



SMALL CHANGE 04

Tree wells

Water filtration using trees

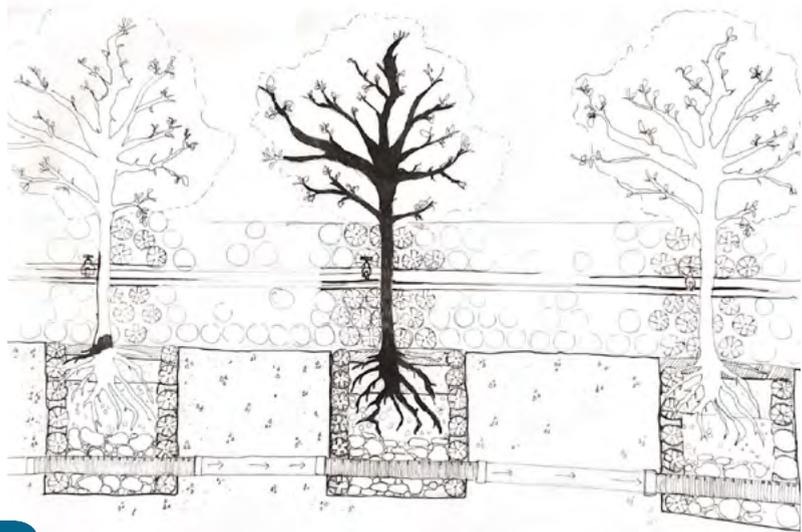
Along Dwar's Avenue, a system of tree wells is constructed, using the eco brick building material for creating robustness and distinct form. The reused rainwater and greywater is led through the wall.

In parallel, the wall works as a protective body between the street and the public institutions facing Dwar's Avenue.



The giant wells of Rajasthan works as water collection facilities, as well as beautiful objects connected to the need of water.

There are many benefits reusing grey water and rain water trees and soil infiltration. It can help prevent erosion and indirectly also make the street safer in that regard.



"Storage rapidly turns grey water into blackwater [...] 24 hours is generally considered the prudent maximum time for storage. [...] The fewer little anaerobic corners and pockets the better. My latest designs drain COMPLETELY...all the collection plumbing, distribution plumbing, and surge tanks (if any) slope at least 2% across their bottom surfaces."

(Ludwig, 2015)

Make sure the geopipe has a 2% angle and that wells can drain completely

Proper use of grey water

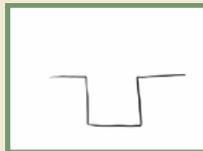
Never store the grey water in the system at any place for more than 24 hours - otherwise it turns into black water!

Take away



Step 1

Dig a 1m x 1m x 1m hole with a shovel

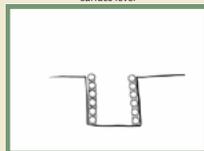


Shovel



Step 2

Build single layer of eco bricks till surface level



Eco bricks

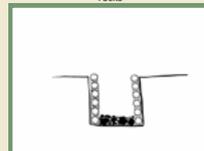


Clay



Step 3

Fill the bottom of the hole with crushed rocks

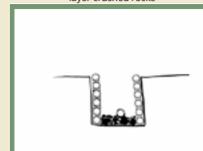


Crushed Rocks



Step 4

Place the Geo Pipe in the middle of the layer crushed rocks

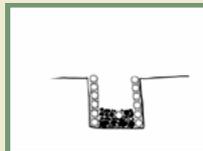


Geo Pipe



Step 5

Place the Geo Pipe in the middle of the layer crushed rocks



Crushed Rocks



Step 6

Add a layer of soil onto the crushed rocks and place the fruit tree on top of the soil



Planting soil and fruit tree



Step 7

Add more soil on top of the fruit tree



Planting soil



Step 8

Add a layer of sand on top of the soil



Sand





SMALL CHANGE 05

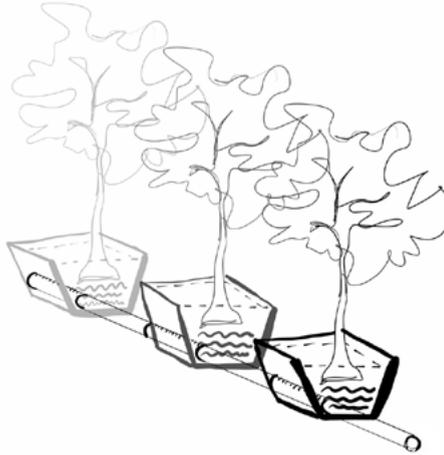
Fruit trees

Food and abundance

In the tree wells, fruit trees are planted. Fruit trees have a series of good qualities. Among them:

- richness of food with low maintenance
- no need of special skills for harvesting
- possibilities to dry fruit for storage
- trees can handle uneven water flows
- safe way to turn grey water nutrients into food.

According to the grey water expert Art Ludwig (2015) grey water shall be applied to the roots of the plants. Reusing it for vegetables is not ideal - partly due to the risk of bacterial contamination of edible leaves and fruits (that are eaten raw) and partly due to the uneven load of water that does not make this water reuse efficient. In this regard watering fruit trees is ideal and their fruits are safe since they don't come in contact with the water.



Fruit trees = ideal to turn grey water into food!



"At Vi-skogen's tree clubs, school children learn to plant trees that protect against drought, floods and hunger. They gain knowledge that trees increase yields and provide money for education." (Vi-Skogen, 2021)

The fruit trees can be taken care of and even funded through "fruit tree clubs"!



Take aways

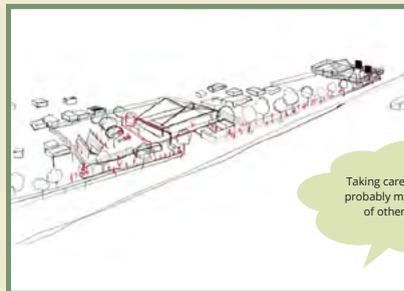


Children at ECD & Mydo could also learn about the fruits and how they grow

Bountiful harvests with little work - ideal for children and schools

Adopting a tree as a child or a group of children creates a sense of pride, ownership and a wish to take care of these trees. Sharing the harvest with people in school and the community!

Image: Anna Ivanova



Taking care of fruit trees will probably make you take care of other trees as well!

6.2.4

PROJECT OUTCOMES: MAMELODI

The following pages show an excerpt of the final project report from the Mamelodi project team as well as a sketches from a continuation of the project by Kirstin Niebuhr.

The games co-created as part of the thesis at hand played a key role in developing the shown projects.

Design outcome

Handbook

This Handbook is a showcase of how adolescents in Mamelodi see, understand and describe their surroundings. What is a safe or unsafe space from their perspective and what language is used to represent these. It lifts what is important to know when starting a project in Mamelodi in addressing the needs of the adolescent.

There are five parts of the Handbook:

Deeper definitions: Spatial words with longer definitions, icons and associations for an understanding of what meaning these spaces have in the Mamelodi-specific context.

Picture Definitions: Street scenarios from the Mamelodi are through the lens of the PUA students. Descriptions of what is good or bad about the spaces and what words they would use to describe them.

Examples: Intervention examples created by us (Ellen, Joel and Kirstin) to showcase ideas of interventions that could be done based on the thoughts collected in the Handbook.

Handbook How-to: Guides both for how to use the handbook in design as well as updating it or creating a new one for a different area with a workshop-curriculum process and guide.

Dictionary: List of S'pitori words with english translations written by the children.



Playground: Moswinkl

It were children play
I don't like this place because many injuries occur because of low maintenance.
This is also a place kids are kidnapped.



Sportsfield

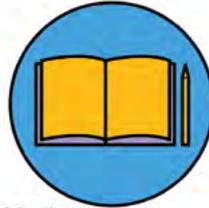
A sportsfield is a nice green place where you can play all sorts of different sports. Like, Soccer, tennis or rugby.



12

School: Sgila

School is a good place for socializing and experiencing life. Some people don't want to go to school. But you get to see different people and you will be able to see and choose what kind of life you want to live. Just as any school, there is a lot of peer pressure and some view it as 'bull on earth'.



Shacks: Mikhuuku (informal housing)

Were people live due economic reasons.
What I don't like about the place is the lack of sanitation and level of crime.
I also don't like the mentality of the people.

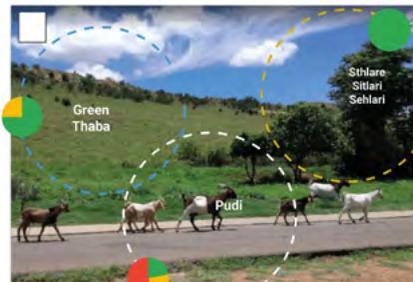


13

Above: Example of Deeper definitions.
Below: Example of Picture Definitions



20



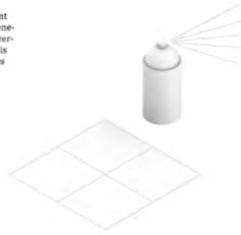
Yellow

- I don't dislike it but goats look stranded
- Doesn't look dangerous, looks safe

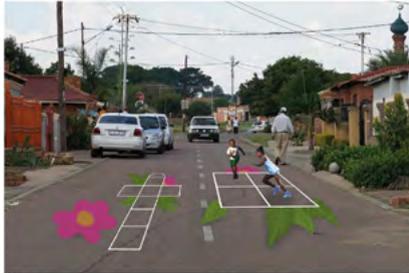


21

Eveliqui dit, cum, si dolocab oreitur sint vent
evenimp orpore peruptum voluptasi la con-
cae mint as dest, quatusapiet qui con con rre-
fere prae solar sit, verum necem du aliquis
pa delest, odis es et eicacerores commoles



Eveliqui dit, cum, si dolocab oreitur sint vent
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cae mint as dest, quatusapiet qui con con rre-
fere prae solar sit, verum necem du aliquis
pa delest, odis es et eicacerores commoles



Above: Examples of interventions
Below: Dictionary of Spitori words

Dictionary

A
Aurie: mean a guy/ boy

B
Bumani: Cheating in a test or exam using illegal stuff to write. (Cheating)
Babus: People
Bhari: (Barf) A dumb person
Bhove: (Bhev) Alcohol, a drink, a beverage
Bhopic: Two cents (¢), Money
Bhokma: a particular tree

C
Chevin: A female gender/ girl, teenage girl 13-19
Chisop: Having a bold head. Also called Lenevbi.

D
Digrice: Prizes
Dizoz: (Mikozhul) Shacks
Delle:

E
East:
E'green: It simply means its green/ fresh
E' thalathakane: it's messy. Thakathakano: it is a mess.
E' hese ka Sama: It's full of kids. It's a child friendly environment

F
Fence: Fence
Fryaz: (Fryaz, Fryaz) Asking for something, from someone, desperately, begging.

G
Gat: Home (Hae)
Gife: Gate
Green: (Errene) Grass
Gigiracchi: a group of people

H
Hasi
Hasi: Home (Gae)

I

J
Jarata: Yard
34

K
Kari: (Koko) Car
Kolat: (Kar) Car
Krohe: (Mocherhana) Church

L
Lantea:
Lisati: (Lisati) Caroler
Le Bhurman:
Lebridge/Lebrilahi. A bridge
Leclacia / Lidladhe: (Sda) House
Le mina:
Letlape: (Matlape, Stema) Rocks (plural)
Lerwevibe: Having a bold head. Also called a chisop.
Le vali
Lerwako: Zinc roofing
Lisati: (Monyako) Door
Libote: (lebotu, lebotanu) Wall.

M
Mabonon - Plants
Ma-otodi
Mamas
Makota
Makotana: Plural educators/teachers
Madape: (Stema, Letlape) Stones or rocks
Mazeken: Roof protecting from sun / rain
Mibhokto: (Mibhoktu, Dibono) Shacks, plural
Njita
Mibhoktu: (Mibhoktu) it's a shack or (e'tete ka mekhakha: it is full of shacks)
Mocherhana: (Dakel) Church
Mudowuro/Mudowuro: When someone has stolen something/ stolen goods. Or something that is fake, a fake brand
Monyako: (Lisati) Door
Moshomaryana: little boy
Muminihi: (Muzozini, Muzozini, Muzozini) A stove, Slides. (maybe it means playground)
Mpanche: Shack
Mudomaro: A stolen car
Munithi - Shade

N
Neci: (Nagana, Polvose) A child
Ntu: (Ledbaha / Ledhaha) A house

O
Oishi

P
Pari: Pathway for people
Plehist
Pipe: La pipe - a pipe. Mapipe (maphaphi) - Pipes
Pija
Praf: Goat

Q

R
Rasta
Robegle: it means to be broken
Roof: A roof
Rust

S
Salon: a small neighborhood salon where we do hair and nails
Sante: (de mma) Sand
Sene:
Sgla: School
Sgani
Shop: small shop where we mostly buy small groceries like bread and coke
Shalika: shop
Skome: also an african word but it means clean
Siontiri: A gravel road
Skoreskove: it is an old broken material mostly uses to describe an old car
Smoke
Spore: Pathway

Soma (Matlape, Letlape) scuse
Sotire: A tree
Strata: (Dila) A street
Syzaba/Syalaba: Community

T
Tayima
Tente: A tent, mostly used for events
Thob: Minutale
Thalana: Father
Thamo:
Thaso: (Thizana/Thizanna) An educator or teacher, male or female. Collectivly they are called Mathizana
Tula (Strata) Road/street
Teth: sidewalk

U

V
Vaya
Vati:

W

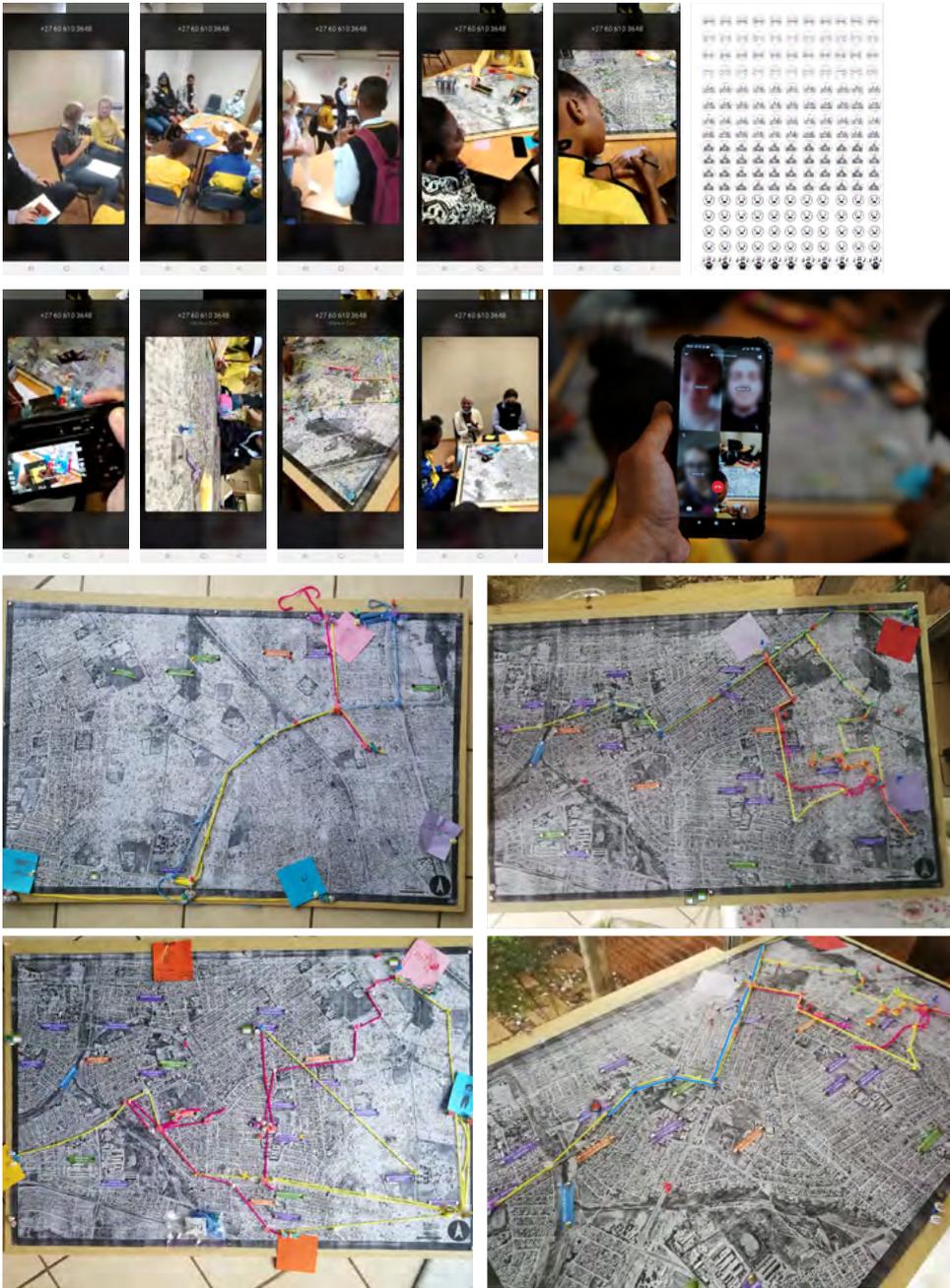
X

Y

Z
Zaya

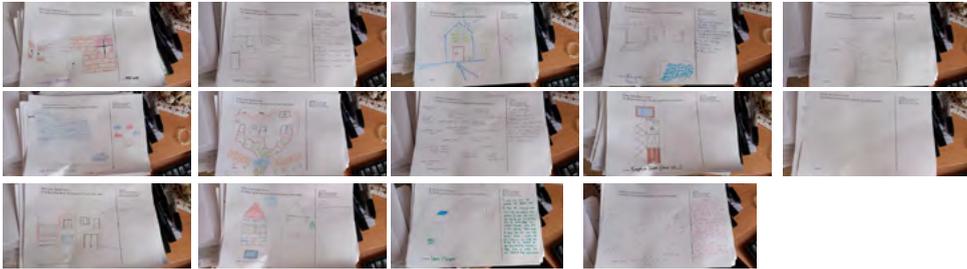


Workshop 1



Workshop 2

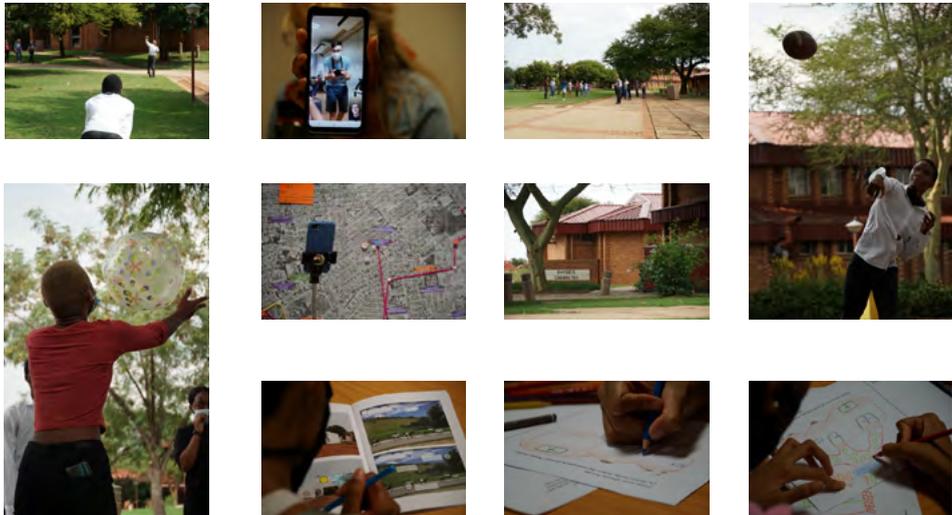
Draw your dream Home



Where do you like to play?



Drawings: (Pre - University Academy)



Photos: Marcus Zorn

Workshop 3

1 - Word Master girl -cheri/cherry surrounded by girls	2  not fruit, but a girl 13-19 cher	3 beautiful gorgeous girl	4 a girl
frayza - asking for something used everyday, everywhere	Asking for something from someone	asking someone for something	Asking for something from someone can go deeper, begging for something
 thizanna- teacher educator. no gender find them in school	Educator, teacher, use at school, no gender specific In school- surrounding	Educator, teacher, use at school, no gender specific In school- surrounding	no idea heard same as other
banana - i copied? cheating past and present tense usage	When you are cheating during an exam, or test, with someone or writing it down	copying	 use illegal materials to find answers during test, phones, passing to one another, copying
mudowuvo - a fake brand a lot of mudowuvo in the streets	Stolen goods, selling something that is stolen from someone. Cars that have been stolen, see them every day, thats how it is	have no idea	 stolen goods or fake, don't know
 letwibibi - bald person, no hair Added: when you remove all your hair	When you removed your hair		A Bald head bald head, cut all hair off. something else

BOGGLE (rename)

Players: 3-6
Time: 30-60min
Age: 16+

GOAL

The goal is to collect points through exploring words of the S'pitiori language.

GETTING STARTED

1. All players sit around the table.
2. Each needs a dictionary, a pen, and a piece of paper for notes.
3. The player with the longest first name starts.

DURING THE GAME

- Repeat Phase 1 and 2 three times.

Phase 1: Collect words that relate to the street / school (It could be a new word)

1. Roll the dice by shaking the dice-box.
2. Set the timer for 2min, or flip the hourglass (for old-school people).
3. Each player tries to find as many words as possible, connecting letters shown on the dice (see figure 1). Write down all words on the scrap paper, and make sure nobody copies your words.
4. When time's up, count the number of letters in all your words. Each letter is worth 1 point.
5. The player with the most points wins phase 1.

Phase 2:

1. The winner of phase one become the Word-Master in phase 2, choosing his/her favorite word.
2. He/she highlights the word on the list, and puts it in the center of the table for everybody to see.
3. All other players write one single sentence to describe the word in the center.
4. The Word-Master walks over to the Swedish hub. He/she has 30sec to explain the word that was chosen to Ellen and/or Joel, and walks back to the main table.
5. When the Word-Master returns, the others walk over to the Swedish hub. They have 30sec each to explain their description of the chosen word to Ellen and/or Joel. Ellen and/or Joel will compare all explanations and nominate the best description according to their understanding of the chosen word.
6. In the meantime the Word-Master looks at the written definition (in S'pitiori) of the chosen word, and nominates the best one.
7. When the players return from the Swedish hub, the best definition in S'pitiori and English, each score 15 points. If a player was nominated for his/her S'pitiori and English description, he/she scores 30 points in total.

END THE GAME

The game ends after playing three complete rounds (phase 1 and 2). Each player should add up all points from phase 1 and phase 2. The player with the highest score wins the game. Congratulations!

NOTES

- "STREET" and "STREETS", does not count as two words.

Workshop 4



Authors: us

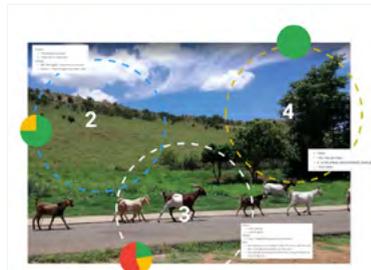


Image derived from Google Street view

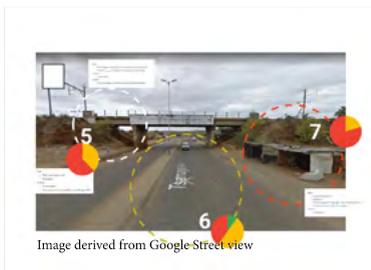
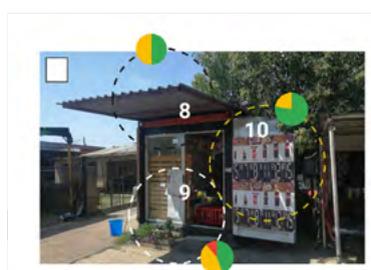


Image derived from Google Street view



Authors: us



Image derived from Google Street view



Image derived from Google Street view



Image derived from Google Street view



Authors: us



Photo by Marcus Zorn

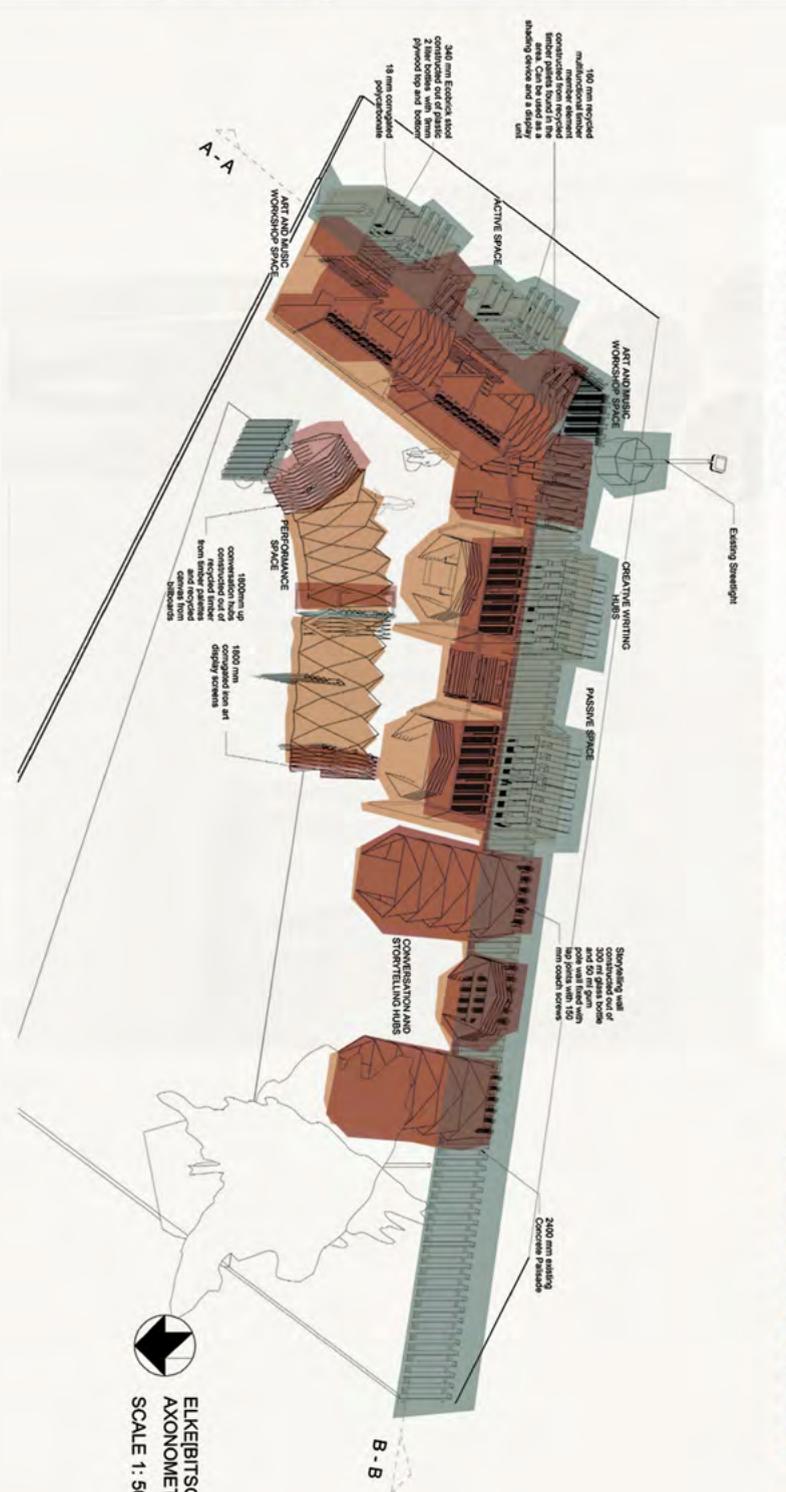


Photo by Marcus Zorn

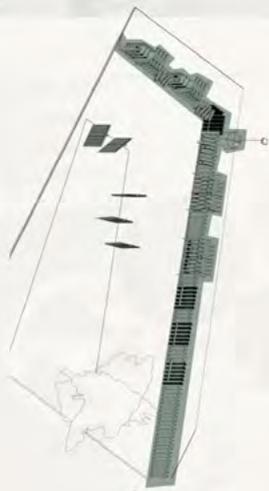
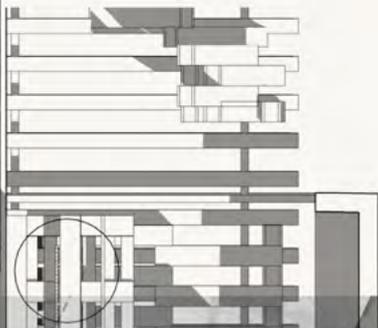
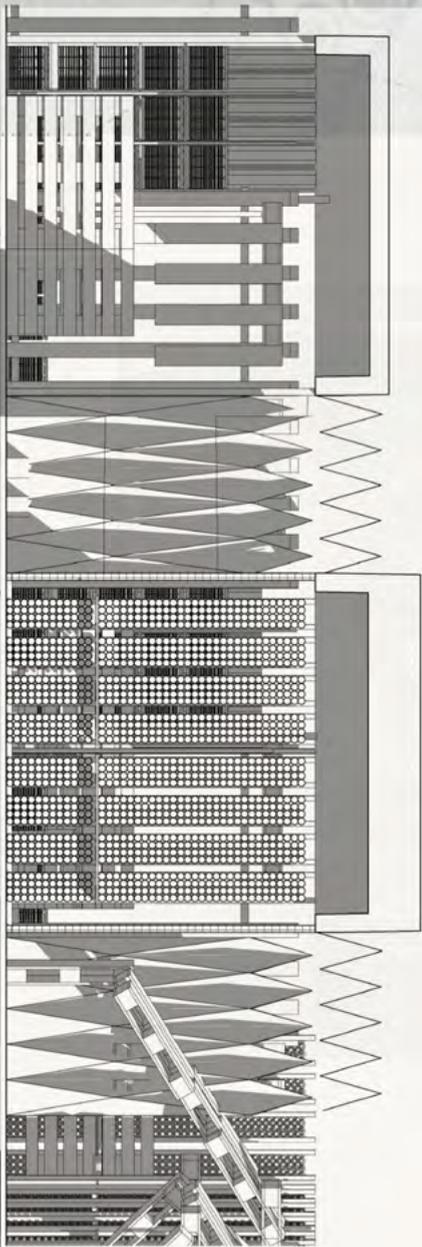
NOW

SOON

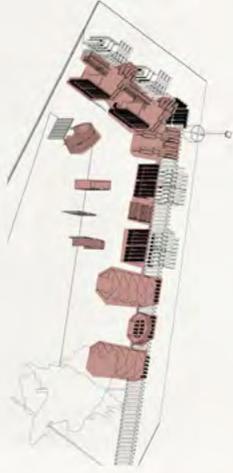
LATER



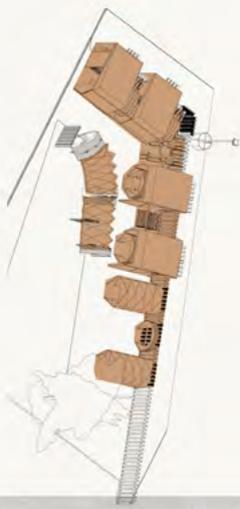
ELKEBITSOJ PAVILLION
 AXONOMETRIC
 SCALE 1: 50



NOW



SOON

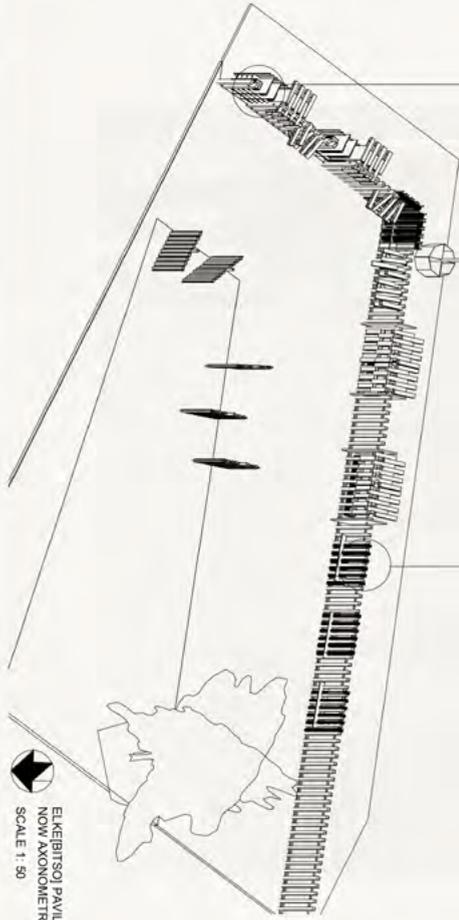


LATER

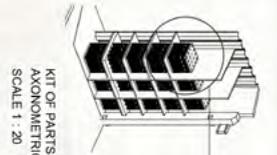
LATER

SOON

NOW



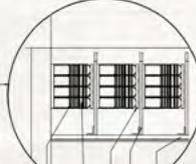
ELZEBRITSOJ PAVILION
NOW AXONOMETRIC
SCALE 1 : 50



KIT OF PARTS SHELVING
AXONOMETRIC
SCALE 1 : 20

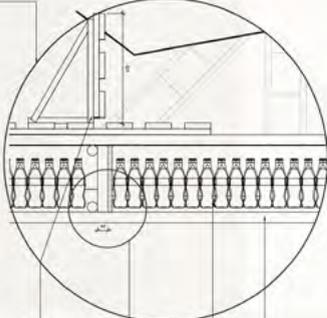


ECOBRIK FURNITURE
AXONOMETRIC
SCALE 1 : 20



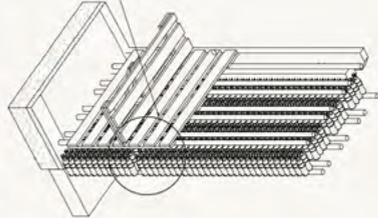
18 mm Corrugated iron sheets
16 mm Plywood shelves
9 mm Plywood top and bottom
Two 1 Liter Plastic bottles fixed together with silicon glue
340 mm Ecobrick stool constructed out of plastic 2 liter bottles with 9mm plywood top and bottom

KIT OF PARTS SHELVING
SECTION
SCALE 1 : 10

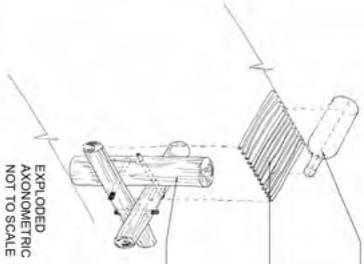


STORYTELLING WALL DETAIL SECTION
SCALE 1 : 5

50 mm gum poles fixed with a lip joint with 150 mm coach screws
300 ml glass bottle for the collection of stories on paper. Glass bottle are fixed together and fixed together with a silicone glue
430 mm table constructed out of recycled pallets



ELZEBRITSOJ PAVILION
AXONOMETRIC
NOT TO SCALE



EXPLODED AXONOMETRIC NOT TO SCALE

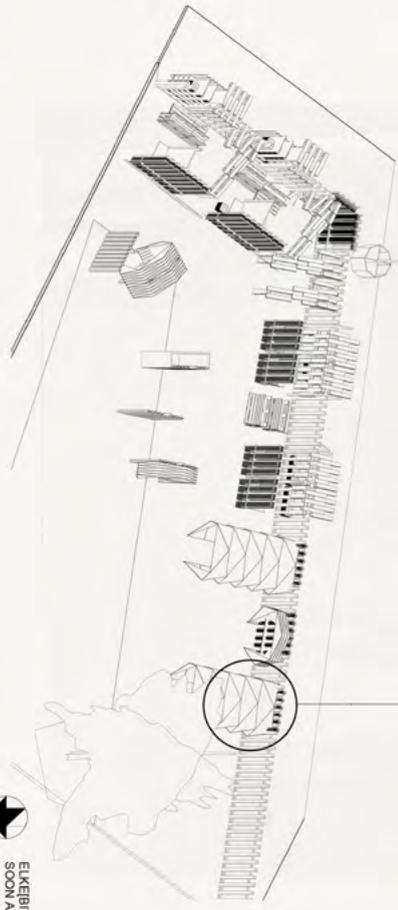
300 ml glass bottle for the collection of stories on paper. Glass bottle are fixed together and fixed together with a silicone glue
20 mm gum poles screen shelving
50 mm Gum poles fixed with a lip joint with 150 mm coach screws

PRODUCT	Elzebritsoj - The Storytelling Hut	DATE	2018-2019
DRAWING PACK	SECTION DRAWINGS		
SCALE	AS SHOWN		
DRAWN BY	ADRIAN WATSON		
PAPER SIZE	A3		

LATER

SOON

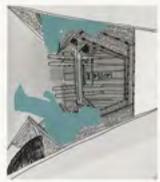
NOW



ELKERBITSQI PAVILION
SOON AXONOMETRIC
SCALE 1:50



CONVERSATION HUB SECTION
SCALE 1:10



PROJECT	Elkerbitsqi - The Storytelling Hub	DATE	2018/2019
DRAWING PACK	EXHIBITION		
DRAWINGS	ARCHITECTURE		
SCALE	AS SHOWN		
BY	ARCHITECTURE		
PAPER SIZE	A1		



6.2.5

LETTER OF COLLABORATION - UP

This document was issued by Dr Carin Combrinck to confirm the collaboration between CTH, UP, and the author of this book; more specifically the stay in Pretoria from 19.03.2021 - 14.05.2021, which constitutes a major part of the body of work at hand.



10 May 2021

Scholarships for short-term scientific work and subject-specific courses abroad

To whom it may concern

Mr Markus Zorn

Student number: 01426064

I hereby wish to confirm that Mr Markus Zorn has collaborated with the University of Pretoria (UP) Department of Architecture, and specifically with the Unit for Urban Citizenship as part of his research towards a Masters degree in Architecture.

The research forms part of an agreement between Chalmers University of Technology in Sweden and UP, in which several of our students have been participating in Chalmer's international Reality Studio. This studio is aimed at hyperlocal community engagement, which serves as the basis of global knowledge exchange in the field of participatory pedagogy in architecture.

Mr Zorn's research constitutes an important part of the research regarding game design as a constituent part of co-design, which has been investigated by way of the Reality Studio, but has also contributed to the Urban Citizen studio in the Honours programme. As part of a previous exchange programme in which data capturing methodologies (ukuDoba method) were jointly developed by UP and Chalmers, Mr Zorn's prior knowledge of the local conditions has put him in a favorable position to contribute to the programme in all its facets, not only through his research, but also by way of his mentorship to the younger students.

We therefore thank Mr Zorn for joining us this year from 19.03.2021 - 14.05.2021 and for his enthusiastic support in the studios that took place in Melusi and Plastic View informal settlements as well as in Mamelodi East, all in the City of Tshwane in South Africa.

Should you require any further clarification, please feel free to contact me at Carin.Combrinck@up.ac.za.

Yours sincerely,

.....

Dr Carin Combrinck

Senior Lecturer

Director: Unit for Urban Citizenship

Department of Architecture, University of Pretoria

6.2.6

LETTER OF COLLABORATION - CTH

A Letter of Collaboration to confirm the successful cooperation with *Reality Studio* (CTH), issued by Emílio Da Cruz Brandão.

Furthermore, it includes the collaboration with Mumtaheena Rifat and Robin Eskilsson.

Emilio Brandao, architect SAR/MSA
Artistic Teacher and Director of Master's Programme
Architecture and Planning Beyond Sustainability (MPDSD)
Department of Architecture and Civil Engineering
Chalmers University of Technology
412 96 Gothenburg, Sweden

To whom it may concern

Letter of Collaboration

I hereby confirm that Markus Zorn has successfully collaborated with the architecture masters design studio (project-based course) *ARK496 Reality Studio* in 2021, at the Department of Architecture and Civil Engineering at Chalmers University of Technology, Sweden. Reality Studio in 2021 cooperated with the Urban Citizen Studio, another architecture design studio, at the University of Pretoria, in South Africa, and other local and global organizations in other 4 cities around the globe.

The collaboration with Markus Zorn constitutes a substantial part of his master's thesis project, carried out for the purpose of obtaining a master's degree in Architecture, at the Interdisciplinary Centre for Urban Culture and Public Space, at Vienna University of Technology, Faculty of Architecture and Planning.

Markus Zorn has worked together with several teams of students, especially those who focused on the South African context. His expertise in (serious) game design, gamification and pedagogical play within architecture, urban design and planning, has shown to be a very valuable contribution to the processes of developing the students' projects in Reality Studio.

Furthermore, a close collaboration between Mumtaheena Rifat and Robin Eskilsson (2 architecture master's thesis students at Chalmers who also followed the abovementioned global collaborations in Reality Studio), and Markus Zorn, in carrying out the project and the several different methodologies, has additionally contributed to a successful working process and outcome for everyone involved.

We would like to formally thank Markus Zorn for the effort and great work he has put into supporting our students during their complex learning processes, with tools and workshops directly tested and applied in Reality Studio's several international projects.

Markus Zorn student number: 01426064

Reality Studio examiner: Emílio Da Cruz Brandão

Reality Studio teachers: Emílio Da Cruz Brandão, Shea Hagy, Liane Thuvander

Sincerely,

Gothenburg 2021-10-26



Emilio Brandao, brandao@chalmers.se
Architect SAR/MSA and Artistic Teacher,

Director of Master's Programme Architecture and Planning Beyond Sustainability (MPDSD)

DEPARTMENT OF ARCHITECTURE AND CIVIL ENGINEERING
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Visiting address: Sven Hultins gata 6
Phone: +46 31 772 10 00
E-mail: brandao@chalmers.se
Web: www.chalmers.se
Chalmers tekniska högskola AB
Reg.No: 556479-5586 VAT No: SE556479558601



EDUCATION & ACADEMIC BACKGROUND

- 10.2018 - 01.2022** **Master Student | Vienna University of Technology**
VIENNA  **Participatory planning**, community engagement, **resilient urban food production**.
LVIV  *Urban Density Lab: development concept of former soviet residential buildings in segregated urban areas.*
- 09.2019 - 09.2020** **Exchange Student | Chalmers University of Technology**
GOTHENBURG  *Design and Planning for **Social Inclusion** studio: co-creation, **collaborative mapping**, 'serious game' design.*
NAIROBI & KISUMU  *Reality studio kenya: community engagement, **participatory processes with children**.*
- 10.2014 - 06.2018** **Bachelor Student | Vienna University of Technology**
VIENNA  *Design thinking, structural engineering, contemporary art & history, graphic design & illustration.*
- 09.2017 - 01.2018** **Exchange Student | UPC Catalonia Technical University - ETSAV**
BARCELONA  *Ecologically sustainable design studio - vision for Dubai, urban concepts for barcelonas suburbs.*
- 09.2007 - 07.2012** **Student | Technical College for Wood Technology and Design**
HALLSTATT  *Timber structure and furniture design, CAD software, carpentry and furniture construction practice.*

PROFESSIONAL EXPERIENCE — PRACTICE & RESEARCH

- 01.2020 - Present** **External Research & Teaching Assistant | Chalmers University of Technology**
GOTHENBURG  *Collaborative research project (University of Pretoria & Chalmers); development of participatory mapping method for collecting and storing geospatial, socio-economic data of segregated suburban areas.*
PRETORIA 
- 07.2017 - 08.2019** **Intern Architect | alp architektur**
VIENNA  *Correspondence with clients and companies, developing projects from concept to construction.*
- 07.2015 - 09.2015** **Carpenter (Framer) | JSN Construction**
VANCOUVER  *Traditional North American timber structure framing practices and labor on construction site.*
- 02.2014 - 09.2014** **CAD Draftsman & Designer | arge architektur hochleitner**
GMUNDEN  *Interior design projects and product design.*

VOLUNTEERING & COMMUNITY ENGAGEMENT

- 03.2018 - 11.2019** **Designer & Site Management | Small Scale Urban Intervention**
VIENNA  *Designing and building urban furniture for the public, building process implemented as collaborative action.*
- 08.2016 - 09.2016** **Volunteer - Technical Consultant | South Asian Institute for Leadership and Cultural Studies (SAILCS)**
COIMBATORE & OOTY  *Maintaining existing buildings, furniture and tool repair work, construction labor.*
- 06.2013 - Present** **Volunteer - Planner, Technical Consultant & Maintenance | Torchbearers Center - Holsby**
HOLSBYBRUNN  *Developing floor plans for refurbishment and new buildings. Maintenance work on existing buildings.*
- Since 2015** **Member of "Architecture without Borders – Austria" (AoGA)**
INT./VIENNA  *AoGA is a member of ASF-international (Architecture Sans Frontières International)*
- Since 2020** **Member of Global Sustainable Futures Network**
INTERNATIONAL  *GSF - Progress through partnerships aims at cross-cultural and interdisciplinary global collaboration*

SCHOLARSHIPS

- 2021** **Scholarships for short-term scientific work and subject-specific courses abroad**
SOUTH AFRICA  *Research trip for participatory action research as part of master thesis*
- 2019** **Erasmus+ scholarship at Chalmers University of Technology**
SWEDEN  *Exchange student for two semesters*
- 2017** **Erasmus+ scholarship at UPC Catalonia Technical University - ETSAV**
SPAIN  *Exchange student for one semester*

PUBLICATIONS & OPEN ACCESS WORK

- 2021**
- Public Play Space - Turning Urban Spaces into Public Spaces with Games and Play**
 CONTRIBUTOR *Public Play Space. (2021); Open access: <https://www.publicplayspace.eu/book/>*
- The UkuDoba Handbook - A Methodological Framework for Effective Data Collection and Storage**
 CO-AUTHOR *Info: <https://research.chalmers.se/en/project/8345> (unpublished)*
- Transforming Lviv 2025 - City for People**
 CONTRIBUTOR *Institute of Urban Design and Landscape Architecture, Vienna University of Technology. (unpublished)*
- 2020**
- The Seedling Project - Final Report and Handbook**
 CO-AUTHOR *Open access: <https://odr.chalmers.se/handle/20.500.12380/302069>. (unpublished)*
- 2019**
- ReBeauty II - Research, Design & Transformation**
 CONTRIBUTOR *Aufschneiter H. and Stabauer C. (2019)*
- Parklets // Street Furniture Vienna**
 CONTRIBUTOR *Grötschnig t. m. (2019)*
- Wiener Reserven - Studio Städtebau 19/20**
 CONTRIBUTOR *Institute of Urban Design and Landscape Architecture, Vienna University of Technology. (2019)*

SKILLS & PERSONAL INTERESTS

Languages

- GERMAN  **C2** | Mother tongue
- ENGLISH  **C1** | Professional communication, written and spoken
- SPANISH  **B2** | Fluent in everyday life communication
- SWEDISH  **A1** | Basic reading and listening comprehension

Software Skills

- VECTOR GRAPHICS  *Adobe Illustrator, Adobe Indesign, Affinity Designer*
- PIXEL GRAPHICS  *Adobe Photoshop, Adobe Lightroom, Capture One*
- 2D CAD SOFTWARE  *Autodesk Autocad*
- 3D CAD SOFTWARE  *Google Sketchup, Revit, Rhino, Archicad*
- WEBDESIGN  *Basics in HTML, CSS; Webflow*
- GOOGLE & MS OFFICE  *Excel, Word, Publisher, Powerpoint, Outlook*
- GEO & DATA  *QGIS, Rawgraphs*
- COLLABORATION TOOLS  *Miro, Kobo Toolbox, Maptionnaire*

Soft Skills

- COMMUNICATION *Professional visual communication, working on written verbal communication, good at listening.*
- CRITICAL THINKING *Flexible, innovative, adaptable, creative problem-solving challenges.*
- LEADERSHIP *Inspiring and motivating personality, willing to compromise, open receive and give honest feedback.*
- POSITIVE ATTITUDE *Team-worker, honest and humorous, energetic and motivated.*
- TEAMWORK *Inter-cultural competence, social and networking skills.*
- WORK ETHIC *Reliable and result-orientated, always meeting deadlines, resilient and dedicated.*
- COMPLETED COURSES *Conflict management, sales training, rhetoric & verbal expression, presentation & visualization.*

Competitions & Awards

- SECOND PLACE  *Nationwide photography competition (Austria; European mobility week)*
- FIRST PLACE  *Residential building project competition 2018 (alp Architektur)*
- NOMINATION  *German design award 2018 (card game design)*
- FIRST PLACE  *Franzl design award 2017 (category 'print product')*
- PARTICIPATED  *European Europe 14 - Graz (Austria) 2017*

Personal Interests

- MOUNTAINEERING  *Hiking & climbing mountains in summer and winter.*
- MUSIC  *Engaged in several band projects, usually on drums, occasionally on bass or guitar.*
- PHOTOGRAPHY  *Landscape photography, Canon 35MM film and Fujifilm mirrorless.*
- BOARD-GAME DESIGN  *Continuously working on digital and analogue games.*


 VIENNA, 2021 MARKUS ZORN, BSC

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 +43 650 8955455
 2102.1993, AUSTRIA

